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UNIVERSAL APPROACHES TO MODELING AND DEVELOPMENT OF METHODOLOGICAL TOOLS FOR UNIVERSITY RISK MANAGEMENT

Abstract: The article is devoted to the study of the problem of risk management modeling in universities. The authors use representative expert material, which is comprehended through the methods of scientific analysis, generalization and description. The authors proceed from the fact that the idea of risk management has spread from the financial and production sectors to the education system. In this context, the authors analyze the mechanisms of selection and adaptation of approaches to modeling risk management in Western universities, and summarize the results of research of Russian universities to identify universal and acceptable approaches to the development of their own risk management models and accompanying methodological tools. The authors summarize the logic of identifying universal risks for universities in the context of their financial and Academic Affairs. As a result, they propose formulations of universal approaches to building risk management of HEIs, which can become a basis for Kazakhstan to develop its own modeling concepts.

Keywords: risk management, university, risk, modeling, universal approaches, tools, higher education system.

Introduction

Modern higher education in Kazakhstan faced an objective need to develop a risk management system. In this regard, special regulatory documents containing framework requirements for the development of risk management of the organization were adopted (Kazakstandart, 2020; Ministry of Education and Science, 2021).The solution of the new task required the search for adaptive mechanisms that take into account the specifics of higher education institutions' activities, and, as a consequence, the development of their own model of risk management. The lack of adequate experience created the risk of formalization and unjustified copying of the systems adopted in the financial and industrial sectors. There was a need for theoretical understanding of the problem of risk management modeling in higher education institutions, generalization of best practices of Western universities.

The analysis shows that in the Western scientific literature there is a well-established expert opinion that a modern university is an economic entity, the activity of which is associated with typical risks of any business enterprise from the service sector. The position of the European expert community can be defined as skeptical, since the prevailing opinion among researchers is that the university should not be measured in market categories, which include risk management (Raanan, 2009).

Russian experts demonstrate high research interest to this problem. Numerous publications of the first 15 years of the XXI century testify to the full acceptance of the idea of risk management in the system of higher education institution. As a result, the concept of "educational risk" has appeared in the Russian expert community (Chubarova, 2005), an idea about the methodological foundations of the Western system of risk management of higher education institutions and its practical implementation in Russian education was formed. At the same time, there are studies devoted to analyzing the specifics of risk management in certain

aspects, for example, in the aspect of professional standards, activities of federal universities, education quality management, etc. (see e.g., Kostyukova. (2011); Belyaeva (2014); Agarkov, (2015); Utemov (2021). Studies on the adaptation of risk management tools in specific Russian universities are of particular interest.

Scientific research of Kazakhstani experts is reduced mainly to the problem statement and prospects of its implementation in higher education. The issues of risk management methodology are fragmentary, without analyzing the management models of specific universities in Kazakhstan. In other words, the process of comprehension of methodological aspects of risk management in Kazakhstan is at the initial stage (Ahn, (2013); Zhetpisbaeva, (2023); Shunkeeva, (2023)

This determines the relevance of this article, which aims to identify universal approaches to modeling the risk management of HEIs and assessing its maturity. Our tasks include assessing the Western models of university risk management; identifying the principles of selection of universal approaches to building risk management in the process of mastering best practices; characterizing the universal tools of university risk management taking into account the results of adaptability.

Methods and organization of the study

The research was conducted on the material of available publications of experts in the field of modeling risk management in higher education institutions with the use of scientific methods of analysis, generalization, description, within which the author's interpretations of universal approaches and risks in the system of higher education are proposed.

In the course of the research, the foreign experience of risk management implementation in higher education institutions was generalized, the logic of differentiation of modeling principles acceptable for the education system was determined. Expert publications on the search for universal modeling approaches and their adaptation to the conditions of Russian HEIs were studied separately.

The results of the study and discussion

The analysis shows that risk management models in Western universities proceed from the basic differentiation of two types of risk, which in Russian-language expert literature are defined as "pure" and "speculative". Under "pure" risks are understood threats to life, safety and health. They are considered to be poorly controllable, and therefore require cardinal solutions, i.e. maximum possible elimination. "Speculative" risks relate to issues of financing, human capital development, and IT strategy implementation. This is what determines the profitability and competitiveness of the university. Approaches to the management of such risks include mechanisms that allow to avoid damage and increase the benefits from their elimination.Of great importance here is access to up-to-date information about the demand for educational services of competitors and their strategic plans to build strength in the general consumer market.Since the 2000s, the activities of Western universities began to develop under the conditions of the Sarbanes-Oxley Act adopted in 2002, which tightened the requirements for financial reporting and mandatory risk assessment.

The history of risk management shows that a great contribution to the development of the concept and modeling of risks was made by university scientists. Here opinions were divided, as there was no unanimity in the academic community about the appropriateness of risk management in universities. In their view, this approach was appropriate in the financial world or in extreme sports, while universities are a place of comprehension of sciences and training of the intellectual elite of society. However, reality demanded to reckon with the fact that universities existed in the financial world and were even a form of business embodiment. Therefore, Western universities have had to implement adaptive risk management models.

The research shows that in the world practice there are universal risks arising in the activities of universities (Raanan, 2009). First of all, these are academic risks, which are associated with research and teaching. Common parameters of their measurement are quality and resource deficit, cost, intensive deactualization of results, low starting level of enrolled students, ineffective tools of quality management system in general (Narayan, 2021).

Academic risks are usually accompanied by ethical risks caused by violation of norms of academic integrity, subjectivization of the process of evaluation of learning outcomes, academic exploitation of students. The cumulative consequences of academic and ethical risks can affect the external reputation of the university, its ratings among employers, applicants, scientists, the competitive environment in general.

The risks associated with changes in the policy in the field of education and science are singled out separately. They can be both internal and external in nature. An obvious consequence of the emergence of such risks is the reduction of funding for the education system as a whole or individual areas of university activities. These risks have a noticeable impact on the entire university management system and may even lead to bankruptcy. Reduced funding can increase the risk of intensive commercialization of education, which will certainly lead to the loss of the "spirit" of university education, the loss of the code of ethics, integrity, academic freedom.

In turn, all this can aggravate the so-called management risks. Many researchers include the inability to replace an ineffective manager in a timely manner, who can be selected without the participation of the entire university staff; and, conversely, the emergence of risk as a result of sectoral rotation of personnel, retirement, i.e. at the very moment when sufficient managerial experience has been accumulated.

In addition, Western experts emphasize the risks associated with aggression, reduced security in universities, poor accommodation of students in campuses, "desertion" of teachers (Raanan, 2009).

As the historiographical analysis has shown, the practice of risk management requires the management to seek a balance in the relationship between universities and the authorized body. In the Western paradigm, the autonomy of the university is an important value associated with the democratic principles of society as a whole. This had to be reckoned with and made part of the university governance system. This process proved to be difficult and at the same time beneficial. One of the first countries to realize this was Great Britain, which in 2000 introduced a mandatory system of risk management in universities. The sought balance of relations consisted in the fact that the university began to adhere to the framework rules of the funding body and inform it about existing and potential risks (Higher Education Funding Council for England, 2001). The resulting system was gradually provided with the Concept of risk management development in HEIs, scientific and methodological tools and staff risk managers (Huber, 2009).

According to experts, a significant contribution to the theory and practice of risk management in HEIs was made by the authors of the Pricewaterhouse-Coopers report prepared for the Higher Education Funding Council for England (HEFCE) (2005). This report contains practical recommendations for the implementation and improvement of risk management processes in HEIs. The experts offer their definition of risk as a threat or opportunity in the form of an event that can negatively or beneficially affect the organization's ability to achieve its goals. This understanding of risk allowed HEIs in England to form two equivalent approaches to risk management: 1) to see risks not only as a negative but also as a positive force; 2) to establish a close link between risks and the strategic goals of the university.

Another country where the risk management system in education was actively developed was the USA. Unlike Great Britain, American universities paid attention mainly to financial risks, which was the subject of a specially developed standard COSO-2004 "Organizational

Risk Management. Integrated Model", which formed the basis for the corresponding national standards of Great Britain, Canada, Japan, Australia, New Zealand. The need for the development and implementation of this standard was caused by external factors, mainly of tragic nature: the shooting at the Virginia Institute of Technology (11.09.2001), the destruction of universities in New Orleans after Hurricane Katrina (2005), protests of university teachers against unjustified hiring and firing of rectors (2010), the high-profile scandal of sexual abuse at Pennsylvania State University (2011). Against this backdrop, American society began to make specific demands to ensure the financial sustainability of universities, safety, and strengthen ethical policies. This led to the fact that the standards for accreditation, ranking, financial audit of universities included parameters from the field of risk management, for example, awareness of the board of directors of the university about risks and measures to eliminate them.

The 2000s saw the active introduction of risk management system in the post-Soviet higher education institutions. This is evidenced by numerous expert publications devoted to the theoretical understanding of the problem, issues of model selection, and typology of risks in education. Some experts considered HEI risks in the context of global economic processes. Thus, the experts of the Ural Federal University suggest that "there may be a risk of deepening recession (capital outflow) due to a sharp decline in the cost of energy resources (Brent oil), limited credit resources" (Agarkov, 2015, p. 110). In this context, the risks that all federal universities in Russia may face are given:

1) lack of highly qualified personnel due to demographic decline and population outflow;

2) decrease in investments due to the rise in the cost of investment projects, impossibility to predict the profitability of the organization;

3) toughening of competition due to active state support, processes of unification and integration of universities into the international educational space;

4) restricted access to borrowed capital in the context of the financial crisis;

5) unfavorable changes in legislation (Agarkov, 2015, p. 111).

With the development of risk management in the world practice, there is an expert opinion that risk management is, first of all, the management of an economic entity that is under the constant influence of external factors and strives to overcome them for the sake of achieving strategic goals. This defines the basic approach to modeling risk management in higher education institution. It should include 5 vertical, one horizontal and one unifying processes. The vertical processes include the definition of strategic goals of the HEI; risk assessment in the context of their classification; risk report; risk management measures; risk monitoring. The horizontal process should be the internal control of fulfillment of all vertical processes. The unifying processes include periodic external audit of the risk management system. It is noteworthy that the realization of all processes requires work with documents regulating the system and its evaluation. Universal approaches to the organization of model-forming processes have emerged:

1. Defining the strategic objectives of the university is the beginning of the risk management system. The quality of risk control depends on how fully the objectives are defined. In fact, at this stage the risk management system is embedded in the processes of HEI activity. Strategic objectives should be reflected in statutory documents, HEI development strategies, and they should be measurable. In Western practice, it is customary to separately identify operational objectives related to compliance with legislation and reporting.

2. When assessing risks, as a rule, a list of events that can adversely affect the achievement of strategic goals of the university is drawn up. In this regard, it is advisable to proceed from the classification of risks by specific attributes. It is important that the chosen classification should be compact and understandable to managers of different levels of university management. The world practice has developed various approaches to risk

classification: a) by risk factors (internal and external); b) by processes of HEI activity (strategic, operational, "pure", "speculative"). Definitions of these risks are presented in the Federation of European Risk Management Association (FERMA) models (AIRMIC, 2002).

Based on the existing practice, it is possible to identify universal principles for describing the risks of higher education institution: a) the name of the risk, it should reflect its essence and be understandable to officials of different levels; b) classification of the risk; c) the strategic goal to which the risk is related; d) the official or unit exposed to the risk; e) risk factors; f) assessment of the risk probability; g) the level of risk acceptability; h) existing ways of risk management.

There is a well-established expert perception of risk measurement methods. In the world practice it is customary to measure risk as a combination of the probability of occurrence of a negative event and the amount of possible damage in the range from 0 to 1. Along with quantitative methods it is customary to use qualitative and mixed methods of measurement. The analysis carried out in this connection shows that preference is given to qualitative methods, which are less costly and do not require a full volume of statistical data. At the same time, the effective application of qualitative methods requires the involvement of a highly qualified manager, preferably from the top management of the university.

In western practice, it is common to apply various methods of risk identification, for example, to form a list of risks it is suggested to analyze external and internal factors of influence or "brainstorming"; to determine the magnitude of the impact of detected risks on the activities of the university to use special questionnaires filled out by officials. After forming the list of risks and their measurement it is necessary to highlight the risks, the reduction of which is required in the first place.

3. Reporting activities of the HEI should include self-assessment of risk reduction. At this stage it is important to detail the risks and measures to eliminate them in the context of the university activities and the work of structural units. It is important to assess the cross risks that arise in the course of interaction of the HEI subdivisions. Such reports should include specific measures to respond to the risks and the resources required for this purpose. This should be a justification for receiving targeted financial resources from the Board of Directors of the university. These reports should form the basis of the university's risk management system.

4. Approaches to risk management should be built in the logic of compromise between the costs and benefits of risk reduction. In this regard, there are several universal ways of risk management: a) risk avoidance by refraining from specific actions or activities; b) risk reduction by insurance and diversification; c) risk compensation by increasing the additional capabilities of the HEI; d) risk redistribution through profitable partnerships, outsourcing; e) risk acceptance, i.e. inactivity to reduce risk, readiness for losses.

A universal approach to the introduction of a three-level model of risk management. The first level provides distribution of risk management functions between employees and departments of the university; each of them should understand their actions and contribution to management. The second level is the development of the university risk management strategy, which describes the risks, ways of response, necessary resources. The third level is related to the documentation of the risk management system within the framework of HEI landscape maps, strategies, job descriptions, regulations of structural units, professional development programs, reporting.

5. The risk monitoring system should be based on the parameters of the management system's ability to prevent academic and financial damage of the HEI with the least costs.

The analysis of expert publications allows us to form universal principles for the adaptation of methodological tools of HEI risk management.

First of all, all risk management mechanisms should be documented. It is important to use a conceptual framework and a clear algorithm for their use. Employees responsible for risk

management should be able to unambiguously interpret the purpose and effectiveness of the tools they use. It should include a mechanism for prompt receipt of information about risks from officials and structural units.At the same time, each of them should be able to propose measures to eliminate and minimize risks in the context of their functional field. In this regard, a special scheme has been developed in some HEIs that takes into account the collective approach to risk mapping. In universal form, this scheme can include 4 levels of implementation:

1) Team work on risk identification. At this level, representative focus groups are created, representing all categories of positions, for example, teaching staff, top managers, managers in the context of business processes of the university, auxiliary staff, etc. Each focus group or its member individually fills in a special questionnaire about risks, its content was described above.

2) Work of experts on risk assessment. At this level, an expert group of experienced managers, such as heads of departments, deans, vice-rectors, is created. Their task is to summarize the collective information about the risks, make their selection, assess the degree of probability of occurrence, impact on the objectives of the university.

3) Development of a package of documents. At this level, the top managers of the university together with the risk coordinator form a register of risks, a matrix of probability of occurrence and impact, a diagram of risk actualization and other.

4) Development of management decisions. At this level, the rector of the university determines a list of measures to eliminate and minimize risks. It is important to correctly group the risks, for example, according to the principles of Merna and Al-Khani (2008), as well as to determine the official responsible for working with each of the identified risks, it can be both heads of departments and the rector himself.

Of great importance in the development of the toolkit is its focus on assessing the likelihood of risks and their impact on the achievement of strategic objectives. Therefore, it is necessary to describe in detail the methods of risk assessment and indicators of negative consequences. As noted earlier, quantitative methods, such as mathematical methods, are considered the most effective. The universal scheme of HEI risk identification proposed above contributes to the completeness of information and effective use of quantitative methods of assessment.

In the expert academic environment, various methodologies have been developed to assess the maturity of a HEI in the field of risk management (Delotte, 2024). The analysis of these methodologies allows us to formulate a number of basic parameters related to the assessment of the responsibility of the leadership, managers and other employees of the university. It should be noted that these parameters are adaptive in nature, taking into account the academic specifics of the university. We propose the formulation of parameters and their universal characterization:

1) Existence of institutional architecture of risk management at the HEI. The HEI applies a documented methodology of risk management, approved glossary, which provides a clear definition of the term "risk" taking into account its complex nature, i.e. its ability to have both negative and positive impact on strategic objectives. The architecture includes requirements for the university's infrastructure to ensure effective risk management, including IT solutions, training, and integration into the QMS.

2) Reasonable distribution of responsibilities among the HEI employees. Risk management is carried out in all spheres of HEI activity and at all levels of vertical-horizontal paradigm, it is reflected in statutory documents, job descriptions, regulations of structural units. The university has appointed "risk owners" within the areas of activity, coordinator of risk management at the institutional level. Jointly-differentiated work of divisions with risks is aimed at improving the performance and improvement of the system.

3) Special responsibility of top management in risk management. The rector and vice-rectors of the university develop managerial decisions, including the development of the risk management system.

4) Transparency in identifying and assessing risks, as well as in determining measures to eliminate or minimize them.Information about risks and risk management is available. All officials understand the structure of the system, have the opportunity to take initiative in working with risks.

5) Availability of mechanisms of supervision and control of the risk management system. The three-dimensional paradigm "Monitoring - Analysis - Control" is implemented effectively in the university.

Conclusions

The practice of introducing risk management system in HEIs took place in the conditions of selection and adaptation of models developed for organizations of financial and industrial sectors. The adaptation process was carried out on the basis of scientific principles in empirical conditions, which were actively developed in Western HEIs. As a result, an expert perception of universal HEI risks based on both economic and academic factors was developed. This has significantly promoted the idea of the expediency of introducing risk management in HEIs in Europe and the post-Soviet space, making it a part of the reforms of the management system as a whole.

At this stage of comprehension of the problem of risk management in education, there is a scientifically substantiated idea of universal approaches to modeling and compilation of methodological tools. This can be a favorable basis for the development of concepts of risk management in higher education institutions of Kazakhstan.

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AN INVESTIGATION INTO CURRENT CONDITION OF THE FORMATION OF FOREIGN LANGUAGE PROFESSIONAL-COMMUNICATIVE COMPETENCIES IN ONLINE EDUCATIONAL FORMAT (IN THE SAMPLE OF NON-LINGUISTIC UNIVERSITIES)

Abstract: This article is written to determine the peculiarities of formation of foreign language professional-communicative competencies of the non-linguistic university students in online education. The authors scrutinize the key aspects of professional-communicative competencies in foreign language based on the earliest investigations provided by foreign and Kazakhstani scholars and on the results of the questionnaire. Moreover, the authors emphasized the significance of online education in the formation of professional-communicative competencies in foreign languages on the basis of the monitor and report, made by National Center for Higher Education Development. However, authors claim that the challenges persist in some Kazakhstani universities, including non-linguistic ones. Despite the universities have utilized the platform to offer massive open online courses, they still face issues related to methodological and technological aspects of online education implementation. Thus, the authors demonstrate the overview on the procedure of integration of online lessons, especially, for the development of foreign language professsional-communicative competencies in agrarian universities. In this regard, the research was carried out among 200 students and teaching staff of the S. Seifullin Kazakh Agrotechnical Research University to identify the current condition of foreign language professional-communicative competencies formation in online education.

Keywords: online education, higher education, non-linguistic university, foreign language professional-communicative competencies, digitalization, massive open online courses.

Introduction

The twenty first century is the century of technological transformation and digitalization. Consequently, personal computers, mobile devices and electronic gadgets have become an indispensable part of the educational process, leading it to new format as online. Furthermore, the pandemic situation in 2019, caused by coronavirus, has revealed the importance of online education and the necessity of the methodological readiness of educational institutions to this format. In this case, the National Center for Higher Education Development conducted monitoring and compiled analytical report for 2023 on the implementation of the concept for the development of higher education in the republic of Kazakhstan for 2023 and 2029 years. This analytical report contains information on 11 targets related to the level of digital literacy of the population. It is revealed that the digital transformation in the sphere of higher education means the transformation of both the educational process itself and its organizational structures. So, digitalization is especially relevant for universities, as competition for the selection of the best students and teachers increases, and university graduates are required to be able to apply digital technologies in practice. In this context, distance learning has great potential for use in educational environment. Moreover, according to the monitoring results for 2023, distance (online) learning is available in 55 organizations of higher education, which is 54% of the total

number of civil organizations of higher education (National Center for Higher Education Development, 2023). However, despite the fact that online learning is being established in higher education of Kazakhstan, there are some challenges with the organisation of educational procedure in some universities, including non-linguistic universities.

Moreover, according to the report on the self-assessment of bachelor's, master's and doctoral degree programs within the framework of specialized accreditation made by Independent Association of Accredited Registrars (IAAR), since 2019 the S.Seifullin Kazakh Agrotechnical Research University has been using the national open education platform of Kazakhstan in order to improve the quality of students' self-education. This platform is designed to host massive open online courses (moocs.kz) to offer online lessons in basic bachelor's degree subjects studied at the university in order to ensure that students can form basic competencies. Nevertheless, according to the report, in the standard number 7, the active use of information and communication technologies by the teaching staff in the educational process (for example, online learning, electronic portfolios, massive open online courses and etc.) is considered as important factor and needs to be enhanced. Secondly, the results of the assessment within the framework of specialized accreditation by the National Accreditation and Rating Agency (NAAR) demonstrate that, technological support for students and teaching staff in accordance with the educational program (for example, online training, modelimg, databases, data analysis programs) suggests improvement (S. Seifullin Kazakh Agrotechnical research University, 2019). Thus, S. Seifullin Kazakh Agrotechnical Research University still needs some methodological guidance and strategies to the implementation of online lessons into university curriculum. Especially, online education is vital in the process of formation of foreign language professional-communicative competencies of the agrarian university students, sine the agrarian sector plays a vital role in Kazakhstan's economic development. In addition, during his official visist to Italy, president Kassym-Jomart Tokayev visited the headquarters of the Food and Agriculture Organization (FAO) of the United Nations in Rome. During his discussion with FAO General Director Qu Dongyu, the President emphasized the significance of guaranteeing worldwide food security and advancing the sustainable development of the agro-industrial complex (Official website of the President of the Republic of Kazakhstan, 2024). Consequently, the agro-industrial sector of Kazakhtsan needs specialists who are not only highly qualified in their field, but also have successfully acquired foreign-language professional communicative competencies. Thus, **the aim** of the paper to examine the current condition of formation of foreign language professional-communicative competencies of non-linguistic university students in online format of education. Based on the aim, the following **objectives** are identified:

1. To determine the scientific and theoretical foundations of non-linguistic university students' foreign language professional-communicative competencies formation on the basis of foreign and Kazakhstani researchers' investigation;
2. To conduct the quantitaive and qualitative research analysis to identify the perspectives of both teachers and students regarding the formation of foreign language professional-communicative competencies in online learning environment;
3. To analyze the results of the questionnaire and interview and assess the current state of formation of foreign language professional-communicative competencies in the conditions of online education.

Research methodology and methods

The paper conducts a theoretical analysis of the formation of foreign language professional-communicative competencies in online conditions, drawing on the research results of both foreign and local scientists. Moreover, it identifies the peculiarities of online

formation of foreign language professional-communicative competencies in S. Seifullin Kazakh Agrotechnical Research Universuty by administering both quantitative and qualitative research methods.

To comprehend the perspectives of both teachers and students regarding the formation of foreign language professional-communicative competencies in online learning environment, a survey was conducted. The survey was believed to be the quantitative method of investigation. The study involved 200 participants, comprising students and teachers from Seifullin Kazakh Agrotechnical Research University. During the research, participants were presented with multiple-choice questions concerning the role of online education and the formation of foreign language professional-communicative competencies in online learning conditions. Participants were provided with a link to the survey on Google Forms and were encouraged to respond anonymously. They were made aware of the aim of the questionnaire and encoraged to express their viewpoints freely, ensuring that their responses would not be criticized.

The aim of the survey was to determine the current state of formation of foreign language professional-communicative competencies by analyzing opinions and experiences of students and teaching staff. Moreover, the questionnaire involves identifying key problematic aspects of integrating online learning into the process of foreign language professional-communicative competence formation.

Furthermore, to comprehend deeper view of the teachers and students on the given issue the interview was conducted as the qualitative research methodology. As the survey was organized on the basis of multiple choice questions, which cannot obviously provide the whole picture of the issue, the aim of the interview was to gain in-depth understanding of the problem and to provide the best possible solution by analyzing the participants' own experience. The interview was consisted of open-ended and wh-questions, which enabled the partcipants to express their feelings, thoughts and challenges that they face. Thematic analysis was implemented to examine the verbatim transcriptions of the qualitative data from the interview. In addition, in order to explore the research questions, repeated themes, ideas and patterns that found in the interview transcript were categorized. As the result of this, data's validity and reliability were increased, which could significantly improve the quality of the research findings. The total number of the interview questions was eight. The interviewees were asked to give a permission to record their voice during the intrview and asked to feel free to express their thoughts. Here are some questions of the interview:

What is the significance of the formation of foreign-language professional communicative competencies of the students?

How can online courses help students to enhance their professional communicative competenices in foreign language?

What are some reasons of integration of online education in foreign language teaching procedure?

What difficulties do students encounter when learning a foreign language in an online classroom, especially in situations involving professional communication?

Literature review

The research into the formation of foreign language professional-communicative competencies has been undertaken by both, foreign and Kazakhstani scientists. Scholars from both groups have made a profound contribution into the the investigation of foreign language professional-communicative competencies formation in the current condition of globalization. Moreover, representatives of the both group claim that the competencies acquired by students have a significant impact on the effective construction of their future careers, as well as on the establishment of strong partnerships with stakeholders.

The issue of the foreign language professional-communicative competencies has been the subject of research investigations of various scholars, including E. P. Abdurazyakova, Hymes, M. Canale, M. Celce-Murcia, L. Bachman, A. Palmer, S.S. Kunanbayeva, A.T. Chaklikova, K.K. Duisekova, T.V. Mikhailova, and Zh. T. Zhyltyrova.

T.V. Mikhailova, K.K. Duisekova, F. Orazakynkyzy, G. Z. Beysembaeva and S. Issabekova (2021) underlined the significance of foreign language professional-communicative competencies and reckoned that in any professional field there is an urgent need to establish business ties with colleagues from different countries. Furthermore, the successful formation of foreign language professional-communicative competencies contribute to the ascent to a higher professional level, allowing students to develop ideas that are in tune with global experience. In addition, such competencies provide an opportunity to present their concepts in the context of foreign market.

According to M. Canale (1980), the study of various points of view on professional communicative competence defines it as "the ability and willingness to participate in foreign language communication in accordance with requirements. These requirements, in turn, are based on a range of language knowledge and competencies covering language mechanisms, speech production, grammatical proficiency, lexical knowledge (taking into account socio-cultural aspect), spelling, pronounciation skills, listening skills, the ability to comprehend the utterance in complex language stuations.

According to E.P. Abdurazakova (2010), foreign language professional-communicative competence refers to the exact degree of mastery of communication techniques, including an understanding of communication standarts, norms of behavior and educational achievements. This concept means the ability of a specialist to function as a secondary linguistic personality in various socially determined contexts, demonstrating readiness for intercultural and professional exchange. It is appropriate to emphasize that in recent decades there has been an increased interest of scientists in studying the complexities of foreign language communicative competence and clarifying its constituent elements.

Furthermore, scholars, based on their study, provided their own definitions of foreign language communicative competencies. The definitions were given below, on the Table 1:

Table 1

Scholars' investigations into foreign language communicative competencies

№	Scientist	Provided definition
1	D. Naurzalina (2015)	systematically identifies and characterizes individuals stages of the formation of professional foreign language competence, distinguishing categories ranging from basic foreign language literacy to functional literacy, progressing further to encompass professional literacy, foreign language professional education, and culminating in the attainment of comprehensive professional foreign language competence.
2	O.V. Kudryashova (2007)	suggests three components of professional foreign language competence: regulatory, cognitive and communicative.
3	J.O.Greene (2016)	emphasizes that readiness for communication in foreign languages is achieved by combining professional knowledge, language competence and a socio-behavioral factor. The formation of the professional foreign language competence is carried out on the basis of the unity of the subject of activity and focus on solving professionally significant tasks.

4	A.T. Chaklikova (2012)	the foreign language professional communicative competence of future bachelors and masters is a separate psychological construct formed on the basis of the integration of the disciplines of the subject block, fundamental and adaptable components of the professional curriculum and enhanced by specialized courses on research and professional orientation in the process of in-depth foreign language teaching. This construct, characterized by the independence of communicative and professional elements, includes cognitive and behavioral aspects, as well as a stable willingness and ability to engage in professional and research activities in a foreign language.
5	D. Hymes (1972)	he generalized this concept as the ability to choose appropriate grammatical means in various communicative situations. In his subsequent research, he identified linguistic, sociolinguistic, discursive, and strategic components of foreign language communicative competence. Hymes proposes a model of communicative competence for analyzing communicative events in a sociocultural and professional context.
6	R.A.Valeeva, O.V. Baykova, and A.K.Kusainov (2016)	the approach centered around competency suggests that learners not only acquire knowledge but also cultivate problem-solving skills. Thus, when employing technologies to improve professional communicative competence in a foreign language, the focus is on practical experiences, nurturing the student's capability to take initiative and address professional challenges.

As it can be seen from the Table 1, various investigations were conducted to provide accurate definition to the term “professional communicative competence in foreign language”. Analyzing and summarizing all the studies, the final intrepretation to the term “professional communicative competence in foreign language” has been suggested by authors:

The term “professional communicative competence in foreign language” refers to the complex of competencies, including linguistic, discourse and soci-cultural aspects of linguistic personality, which can support students to build successful connections with the foreign language speakers in different life situations, including business and trade. In this the knowledge of language itslef is not enough, so graduates are asked to acquire professional aspects of the language curricula to build strong partnership in global economics.

Furthermore, Malasian reserchers Maisarah Ahmad Kamil and Ahmad Mazli Muhammad (2021) made an investigation into professional-communicative competence in English for occupational purposes (EOP) courses, and suggested a systematic literature review and proposal of a framework. The literature for this systematic review was gathered from the online databases, such as Scopus, Web of Science and ScienceDirect. A total number of initially retrieved and evaluated articles was 159. However, following the application of quality criteria to exclude irrelevant papers, 133 articles deemed relevant to the topic and were included in the systematic review. As the result of the review, it is identified that, the communicative competence consists of productive skills: speaking and writing.

Authors’ investigation results were given on the Table 2, as the list of common speaking and writing communicative tasks:

Table 2
Common speaking and writing communicative tasks

№	Common speaking communicative tasks:	Common writing communicative tasks:
1	Giving oral presentations	Writing emails
2	Providing speech at the meetings and seminars	Writing reports
3	Communicating with customers and clients	Writing business letters
4	Handling telephone calls	Writing proposals
5	Giving and receiving instructions	Writing memos
6	Participating in social conversations	Preparing texts to the presentation slides

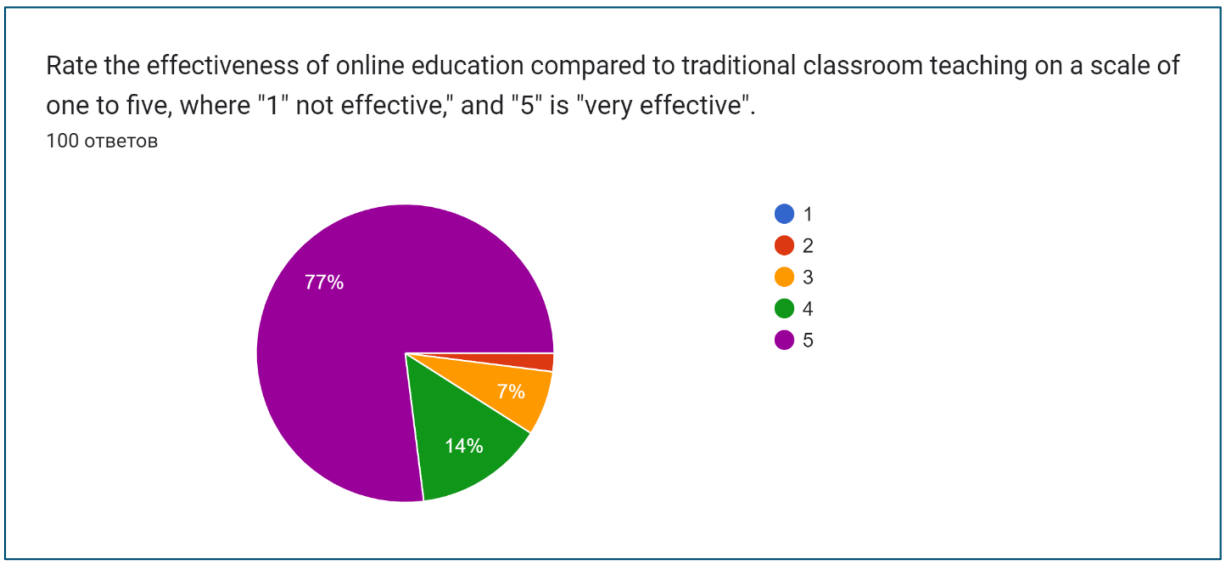
As it is demonstrated on the Table 2, common speaking communicative tasks for the effective formation of professional communicative competence in English language, are linked with discussion, persuasion, convincing and negotiating abilities in professional sphere (Belwal, R., Priyadarshi, P., & Al Fazari, M. H., 2017). Whereas, common writing communicative tasks for future specialists should be based on writing emails, responds ti the business letters and proposals, and preparing texts to the presentation slides (Ahmmed, R., Sinha, B. S., Khan, R., & Islam, D. M., 2020).

Also, Al Mamun and other scientists underlined the importance of online tools in the formation of students' foreign language professional-communicative competencies and reckoned that one of the most significant uses of educational technology is the online classroom, which comes in three styles: synchronous, asynchronous and blended. E-learning platforms for Agrarian sector will provide virtual tours, 360 degree pictures and online laborotories, which could effectively be integrated to the learning procedure (Al Mamun, M. A., Lawrie, G., & Wright, T., 2020).

Results and discussion

As a result of the conducted survey, it was revealed that 48% of respondents "totally agree" that the students' proficiency level in a foreign language can affect their career in the agricultural sector. Moreover, 35% of parrticipants chose the answer "almost agree" with that opinion, while 15% of the respondents picked the option "neutral". This indicates that most students understand the value of learning foreign language for their future employment in the agriculture industry. It emphasizes how important it is for students to develop their competencies in foreign language in order to become more globally competetive and prepared for the workforce. Still, a percentage of students mighrt require additional education or experience to completely understand the significance of language proficiency for their future careers. This data can aid educators and legislators emphasize how significant it is for students to acquire foreign language skills as a part of agriculture education program. Furthermore, to the question: how often do you use online resources to learn professional oriented English? Students choose the following answers: "everyday"- 17%, "several times a week"-45%, "once a week"-12%, "rarely"-25% and only 1% of respondents chose the option "never". From this answer it is revealed that, the majority of students use internet resources often, suggesting that learning professional-oriented English heavily relies on these resources. But a sizable minority only utilize them little or never, indicating possible obstacles or a need for more encouragement and assistance to the effective integration of online tools to the teaching and learning process. Then, students were asked to rate the effectiveness of online education compared to traditional classroom teaching on a scale of one to five, where "1" was indicated as "not effective," and "5" was considered "very effective". The results of the survey question is demonstrated below

Figure 1
The survey results



As it is illustrated on the Figure 1, most of the participants (77%) rated the effectiveness of online education as “very effective”, which demonstrates that the large amount of the students have a strong belief in the effectiveness of online education. This favorible opinion might be explained by the adaptibility, accessibility, and variety of learning materials that online education provides, which can accommodate different schedules and learning preferences.

Moreover, students and teachers were asked to list some obstacles encountered while undergoing professional-oriented English lessons, from the perspectives of Agrarian university. As the result of the questionnaire, it is identified that the majority of respondents (45%) reckon that there is an absence of specialized and profesiional-oriented books and teaching aids on the formation of foreign language professional-communicative competencies in online education. In addition, the other barriers were investigated as follows:

A) "Lack of study hours for learning a language due to major-oriented disciplines"-27%

B) "Lack of competency-oriented focus in language education"-18%

C) “Absence of online preparation”-10%

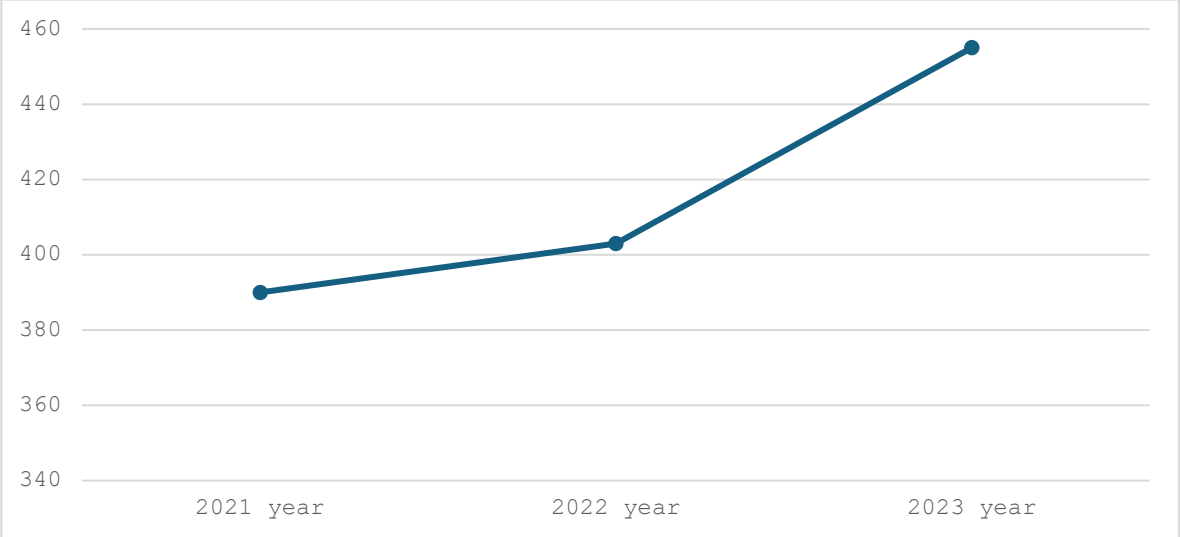
These results underline the necessity of more focused materials and systematic modifications to facilitate successful language acquisition in professional oriented context under the conditions of online learning.

The next question was organised to identify the respondents’ viewpoint towards the current level of training of students of an agrotechnical university in terms of foreign language professional-communicative competence. Here, almost half of the survey participants (49%) chose the option “satisfactory”, while 22% of the respondents chose the variant “insufficient”. In addition, 19% of the survey participants asserted that the current level of training for students at an agrotechnical university in terms of foreign language professional-communicative competence is “good”. And only 7% of participants reckoned that the current condition of formation of foreign-language professional-communicative competencies is “perfect”. Also, there was a question about the advantages that the respondents see in the online teaching of professionally oriented English. The answers were accepted as following:

a) Flexibility and accessibility-33%
b) International experience and partnership-19%
c) Effective usage of resources-18%
d) Specialised content-15%
e) Interactive tools-15%

Furthermore, based on data provided by the National Center for the Development of Higher Education, the reported Internet speed in higher and postgraduate education institutions of the Republic of Kazakhstan ranges from 40 Mbit/s to 3,400 Mbit/s, with an average speed of 455 Mbit/s. The data is given below (Figure 2):

Figure 2
Average Internet speed



As it is demonstrated above (Figure 2), average interned speed in Kazakhstan was almost 390 Mbit/s in 2021, and it experienced a small rise to approximately 405 Mbit/s in 2022. In addition, the speed of the internet reached to 455 Mbit/s in 2023, demonstrating the progress.

Moreover, as the result of the conducted interview the following qualitative data was revealed:

First of all, participants highlited the issues related to the formation of foreign-language professional communicative competencies under the conditions of online education based on the Agrotechnical university students' and professors' perspectuives:

a) Limited teaching hours- the discipline "Professional English" goes only twice a week among the 2nd year students of the "Microbiology and biotechnology" department.
b) Some of the students still have troubles with the Internet connection, both teaching staff and students reckoned that some of the students couldn't join the online classes.
c) Coursebook and other study materials are not designed for online format- the exercises and study materials are not flexible to the online format, thus there is a high demand for a new adaptable coursebook for the formation of professional-communicative competencies in foreign language for Agrarian field.

Taking into consideration the problems, this paper suggests to:

Provide extra teaching hours or if it is not possible, then to suggest optional classes for the students to cover the gaps and to develop their competencies.

Ask the government to provide full access to the Internet and guarantee its quality.

Develop a new coursebook titled as “Professional English for non-linguistic university students” in L.N.Gumilyov Eurasian National University under the guidance of the professor K.K. Duisekova.

Conclusions

To sum up, globalization led to the integration of countries’ economy, business and education spheres connecting the ties between them. This has led to the question of the necessity to form graduates’ foreign language professional-communicative competencies for effective communication with international partners in any sphere. The ability of citizens to plan professional activities on the basis of international cooperation and dialog, as well as independace and resourcefulness are directly related to the success of their professional activities. Consequently, professional prosperity of graduates is significantly linked with the foreign language professional-communicative competencies that they acquire at the university. Thus, Kazakhstani higher-education institutions, including non-linguistic universities are asked to prepare the methodological aspect of their curricula to the upcoming requirements. Furthermore, these days digitalization and technological transformation in education system of each country lead to the demand for online learning format. In this case, the authors scrutinized the key aspects of professional-communicative competencies in foreign language based on the earliest investigations provided by foreign scholars, such as M. Canale, E.P. Abdurazakova, D. Naurzalina, O.V. Kudryashova, J.O.Greene, D. Hymes, R.A.Valeeva, O.V. Baykova, and A.K.Kusainov and Kazakhstani scholars, inluding S.S. Kunanbayeva, A.T. Chaklikova, K.K. Duisekova, T.V. Mikhailova, and Zh. T. Zhyltyrova. In addition, the authors emphasized the significance of online education in the formation of professional-communicative competencies in foreign languages on the basis of the monitor and report on the implementation of the concept for higher education and science between 2023 and 2029, made by National Center for Higher Education Development. As the center highlited that the digital transformation is crucial for universities admidst increased competition, these days distance (online) learning is being adopted by 54% of higher education organizations. All in all, the authors demonstrate the overview on the procedure of integration of online lessons, especially, for the development of foreign language professsional-communicative competencies in agrarian universities. In this regard, the research was carried out among 200 students and teaching staff of the S. Seifullin Kazakh Agrotechnical Research University to identify the current condition of foreign language professional-communicative competencies formation in online education. Based on the conducted survey, several key findings have emerged:

Nearly half of the respondents (48%) strongly agree that proficiency in a foreign language significantly influences students’ career prospects in the agricultural sector.

A substantial percentage of students actively utilizes online resources for studying professionally oriented English, with 45% engaging several times a week. In addition, the majority (62%) leans towards regular usage, highlighting the significance of online tools in formation of foreign language professional-communicative competencies.

Participants of the survey generally rate online education as efficient, with flexibility and accessibility being the most acknowledged advantage (33%). Also, other positive aspects were identified as international experience and partnership (19%), effective resource utilization (18%), and speacialized content (15%).

Several obstacles in foreign language professional-communicative competencies formation were identified: the lack of specialized books and teaching aids (45%), limited study hours due to major-oriented disciplines (27%) and a deficiency in competency-oriented focus (18%).

Perspectives on the current level of formation of foreign language professional-communicative competencies at the S. Seifullin Kazakh Agrotechnical Research University varied: 49 % of respondents found it satisfactory, 22% of participants considered it insufficient and 19% of students rated it as good. Only 7% reckoned that the condition is “perfect”.

In conclusion, as the result of the quantitative analysis, it is revealed that the integration of online learning into the formation of foreign language professioanl-communicative competencies has a postive view among the students and teaching staff. Moreoveer, the findings provide vital insights for enhancing language education programs at non-linguistic universities, including S. Seifullin Kazakh Agrotechnical Research University.

Conflict of Interest Statement

The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

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MODERN APPROACHES TO THE ASSESSMENT OF ACADEMIC ACHIEVEMENTS IN HIGHER EDUCATION INSTITUTIONS: A SYSTEMATIC REVIEW OF THE LITERATURE

Abstract: The impact of global trends in the world educational space related to digitalization actualized the issues of improving approaches to teaching and assessing the academic achievements of future specialists. The pedagogical design of academic achievements' assessment is comprehensive and requires a systematic review of research to identify effective practices. The purpose of this study is to conduct a systematic literature review to identify strategies and methodologies for assessing academic achievements in teaching and learning in higher education between 2004 and 2024.

The study was conducted in accordance with PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) recommendations. A systematic literature review was conducted to identify, evaluate, interpret and analyze available research on learning assessment practices. The analysis focused on the research question and identified topics related to the approach to the assessment of academic achievements.

The analysis identified two key themes: the assessment of academic achievements in digital and traditional environments. In the context of each environment, appropriate assessment strategies and methodologies are applied. These results provide an idea of effective practices for assessing academic achievements in universities. The results of this study have important implications for educators and curriculum designers. The study highlights the importance of considering new approaches to assessing academic achievements, taking into account the current features of education systems. Using these findings, educators and curriculum designers can improve the quality of assessment of academic achievements in teaching and learning.

Keywords: Academic achievement, systematic literature review, evaluation, assessment, higher education.

Introduction

The appearance and evolution of technology had led to many changes in education, particularly the way of teaching, learning, and evaluating. At present, many educational technologies that have proven themselves for decades are losing their relevance. The reason is the gap between educational technology and the lifestyle of students (Bile, 2022). Today, traditional technologies and methods are perceived by students as boring, outdated, and irrelevant (Dennen et al., 2020).

In addition, traditional educational technologies no longer provide significant learning outcomes because students are increasingly living and interacting online (Cladis, 2020). Since testing and giving feedback can be implemented in a digital learning environment very effectively compared to traditional methods of assessing education (Morgan, 1979), it is not surprising that many researchers and educators are using computers, mobile devices and the Internet as a medium for testing and providing feedback.

In the context of changes in educational technology, innovative approaches to assessing

academic achievements are needed to more effectively motivate and engage students in the learning process.

This paper examines the components necessary for effective assessment of academic achievements as a pedagogical approach in digital and traditional environments. The main purpose of the study is to provide a concept of academic achievements and strategies for their evaluation. Exploring key aspects of the assessment process, considering methodologies and strategies, and the application of modern approaches, this article shows how assessment of academic achievements can be implemented in an educational context to improve learning outcomes.

This review is intended for researchers interested in a deeper understanding of the assessment of academic achievements; representatives of ministries of education involved in the development of curriculum standards; the administration of the university, involved in the process of assessing educational achievements, and, of course, teachers-practitioners who directly implement the assessment procedure to improve the quality of the learning process, which will lead to a more effective and successful education.

Literature review

Assessment in the educational process occupies a key place, not only to confirm the learning outcomes, but also to form feedback between the teacher and students. Assessment in education is defined as a system-forming factor that affects the effectiveness of the entire system.

One of the first researchers to reveal the importance of assessment in the psychological and pedagogical sphere was B.Ananyev. As early as the 1930s, he concluded that without evaluation, educational activities could not be properly organized. At the same time, the quality of assessment of educational and cognitive activities, the result of which is educational achievements, is important. In this study, learning achievements are understood not only as learning outcomes, including skills, and competencies, but also as the results of extracurricular activities (Sergeeva et al., 2013).

Nowadays, academic achievement includes not only a student's academic success but also other skills achieved in the learning process. For example, in Kazakhstan, since 2022, an integral social GPA has been introduced in a pilot mode in some universities. The result of the training will be a symbiosis of academic, research and social GPA - Integral Grade Point Average (IGPA). This measure is aimed at increasing the motivation of students to participate in project, research, sports, social and volunteer activities at the university and, as a result, the development of related competencies.

The IGPA is a comprehensive assessment of a student's academic achievements, calculated as the level of a student's academic achievement and is the sum of the values of the shares of 0.5 of academic achievement, 0.35 of research skills, and 0.15 of the student's social competencies.

The IGPA is calculated using the formula:

$$IGPA = GPA*0,5 + iROS*0,35 + SCI*0,15$$

In this formula, GPA represents the weighted average assessment of the student's level of academic achievements for a certain period (the ratio of the sum of the products of credits by the digital equivalent of the final grade points for all types of academic work to the total number of credits for these types of work for this period of study); iROS (Indicators of Research-Oriented Study) is a set of skills and competencies of a student acquired in the process of research and project activities, measured by indicators and demonstrated by their

average score of research skills; SCI (Social Competition Indicators) is a set of skills and competencies of a student acquired in the process of social activities, measured by indicators and demonstrated by his average score of social competencies.

Social activity develops many competencies and skills, thereby increasing the competitiveness of graduates (Zulpykhar, 2023). At the same time, educational achievements should be assessed by effective methods that keep pace with the processes of transformation and digitalization of educational systems.

In general, the assessment of academic achievement, as an important part of the educational process, has three key functions. First, the assessment provides information about the success of the teacher and students (Burton, 2001). Second, assessment of academic achievement has a stimulating function for students to continue their education (Cole 1993). Thirdly, the analysis of the assessment makes it possible to determine how well the teacher has qualitatively approached (Taras, 2010).

The researchers emphasize that the qualitative assessment process should be carried out on the basis of predetermined criteria available to both the teacher and the student. Also, the quality of the assessment procedure can be increased by students' initial self-assessment of the results of their activities (Khuseinova et al., 2018).

In Kazakhstan, universities use a modular-rating approach to assessing students' academic achievements. The technology of assessment of educational achievements is determined by the requirements of the competency-based approach and represents a complex process of forming an assessment of educational achievements, in which the data obtained during practical classes, testing, practical work, exams, etc., are integrated and presented in a certain scale. It is calculated as the ratio of the sum of the products of credits and the final grade in the discipline (in numerical terms) to the amount of credits for the current period of study.

Table 1

Point-Rating Assessment in Universities of Kazakhstan

Evaluation by letter system	Digital Equivalent	Points (% content)	Evaluation according to the traditional system
A	4,0	95-100	Excellent
A-	3,67	90-94	
B+	3,33	85-89	Good
B	3,0	80-84	
B-	2,67	75-79	
C+	2,33	70-74	
C	2,0	65-69	Satisfactorily
C-	1,67	60-64	
D+	1,33	55-59	
D-	1,0	50-54	
FX	0,5	25-49	Unsatisfactorily
F	0	0-24	

Teachers determine the methods and forms of assessment that they use in the teaching process. Assessment tools are prescribed in the syllabuses of academic disciplines based on learning outcomes and competencies defined in educational programs. Assessment of learning outcomes is based on criteria that determine the success of learning material. Researchers Shevchuk (2018), Zhakiyeva (2022), Primbetova (2011), Iskakov (2018) and others were engaged in assessment issues in Kazakhstani universities.

In addition, the environment in which the assessment process takes place is important. New approaches to learning, associated with the widespread use of digital technologies, require new approaches to assessment. The use of digital tools for assessing educational achievements was researhed by Barringer (2018), Wang (2020), Shumilova (2022), Andriani et al.(2024) and others.

In the traditional environment, the issue of developing methods for assessing the components of educational achievements, in particular, such a complex category as learning outcomes, remains relevant. Authors I.A. Zimnyaya, V.N. Mikhelkevich, I.V. Sibikina, Y.G. Tatur, A.V. Khutorskoy and others developed and studied methods for assessing learning outcomes.

At the same time, the transformation of education, changes in teaching methods, and digitalization require regular study and analysis of the effectiveness of evaluation procedures. The purpose of this systematic literature review was to identify empirical evidence demonstrating what modern approaches are used to assess students' academic achievement. The systematic review was guided by the following research questions:

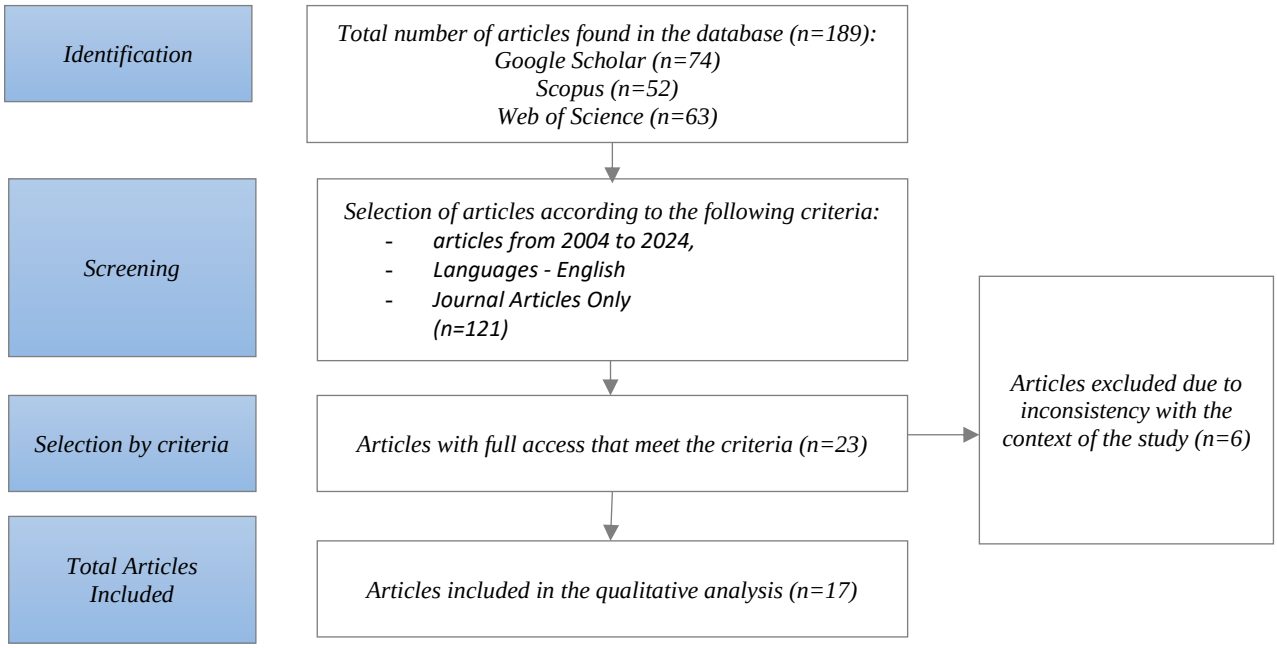
1. What modern approaches are used to assess educational achievements?
2. What methods and strategies for assessing learning outcomes have a positive impact on students' motivation to learn?

Methodology

Systematic Literature Review (SLR) is a method of identifying, evaluating, interpreting, and analyzing existing research findings related to a specific topic, research question, or phenomenon. The purpose of this study is to conduct an SLR to summarize and analyze the literature on modern approaches to the assessment of academic achievements in higher education institutions.

The review was conducted in accordance with the PRISMA guidelines (Moher, 2020), which consist of four stages: identification, screening, selection by criteria, and inclusion of selected articles. The identification phase involves searching for relevant articles by keywords in databases. The screening phase involves the initial selection of articles based on predetermined criteria, and the selection phase consists of a thorough evaluation of the articles to ensure that they fully meet the inclusion criteria. The final stage is the inclusion of the selected material in the study itself, where the selected articles are analyzed. There are a number of advantages to using PRISMA as a guide for conducting SLRs, as its search procedures are systematic, provide a clear understanding of the process, and facilitate the evaluation of sources of information (Mohamed et al., 2020). Figure 1 illustrates the SLR process in this study.

Figure 1
Research Data Retrieval and Selection Process



The first step in conducting an SLR using PRISMA is the identification process, in which the main keywords are expanded by identifying and listing synonyms to get as many articles as possible from the database. The authors used Google Scholar, Scopus, and Web of Science databases to generate search strings for the keywords "assessment and learning achievements", "assessing and learning achievements" from 2004 to 2024 using the Publish or Perish program by Harzing (2007). As a result, 189 papers were obtained at the first stage: 74 papers in Google Scholar, 52 papers in Scopus, and 63 papers in Web of Science.

The second stage is the selection process, whereby articles found in the database are selected or excluded based on criteria defined by the authors. Eligible articles are referred to as "included articles" and those that do not meet the criteria are removed and referred to as "excluded articles". The inclusion and exclusion criteria are shown in Table 2.

Table 2
Criteria for inclusion and deletion of articles

Criteria	Inclusion	Exception
Types of articles	Journals (scientific articles)	Conference proceedings, book chapters, review articles
Language	English	Other languages
Chronology	From 2004 to 2024	Published before 2004

The next stage of the research process was to determine the type of documents - as a scientific "article" in the database, and the language - English, duplicate articles were excluded. As a result, 121 articles were selected.

The authors then analyzed the distribution of articles by year of publication, subject

area, authors, countries, and university-affiliated authors. Of the 121 articles, 98 were excluded for reasons such as irrelevance to the context of the study (higher education), lack of access to the full text, as well as lack of awareness of the results and comprehensive understanding of the topic in the abstracts.

The selection of articles according to the stated criteria was carried out in the Rayyan program (Ouzzani et al., 2016).

The next step in the SLR process was the selection phase, in which 23 papers were selected. Articles were carefully evaluated by reviewing titles, abstracts, methods, results, and discussions to ensure that they meet the inclusion criteria and meet the current objectives of the study (Figure 2).

The selection of articles for review was carried out in three stages. The first stage included the selection of titles and abstracts, the second stage included the analysis of articles based on established selection criteria and the systematization of the results in a table, and the third stage included reading and summarizing all the results in one document.

Several analyses have been conducted, including sample bibliometric analyses (Thelwall, 2008), categorical meta-trend analyses (Thelwall, 2008; Zhang & Aslan, 2021) and inductive content analysis (Zhang & Aslan, 2021). The authors included only those articles that were relevant to the research questions and excluded those that did not consider the practices of assessing academic achievement.

After excluding the articles that were not applicable to the study of approaches to the assessment of educational achievement, there were 17 articles that were used for analysis in this study.

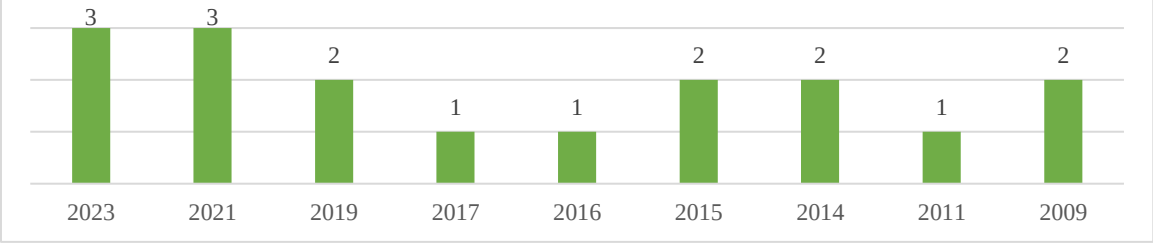
Results and discussion

As a result of the study, 189 documents were received, and only 17 of them met the inclusion criteria and were analyzed.

As shown in Figure 2, the first relevant scientific article in this review was published in 2009. It can be noted that in recent years there has been a slight increase in interest in this topic (3 articles in 2021 and 2023).

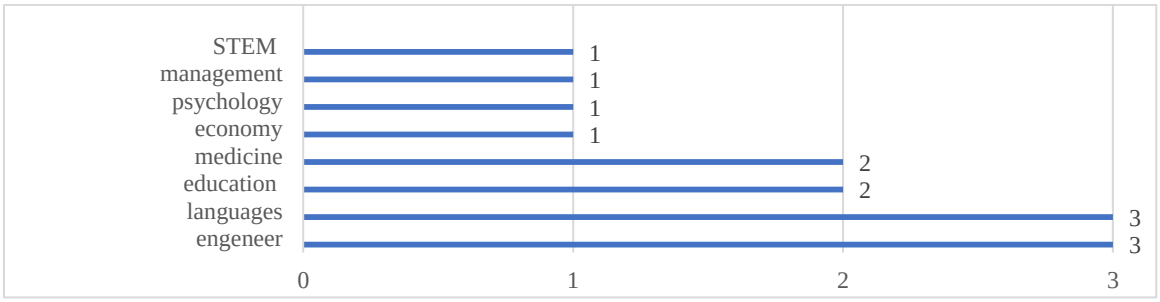
Figure 2

Distribution of articles by year of publication



The research was conducted among university students in various fields of study. Some studies included more than one discipline (e.g., J Klein, 2014) or no discipline (e.g., L Zheng et al., 2016). Thus, the number of disciplines in which research was conducted may differ from the total number of selected articles.

Figure 3
Distribution of articles by field of education



Studies on learning assessment included digital tools and the use of traditional methodologies in digital environments (8) and offline tools (9). Digital tools included the use of mobile apps in assessing student learning; online exams, online presentations, online quizzes, case studies, and report submissions; formative assessment online and with technical support; Using ChatGPT to improve the grading process. Tools such as the Online Self-Assessment Questionnaire (CSAQ), the Test Taking Skills Scale (TTSS), the Student Assessment Fear Scale (SEAS) and the Foreign Language Learning Self-Esteem Scale (FLLSE) were also studied for language learning in an online environment.

Strategies for assessing learning achievement that can be applied in traditional offline environments included in this study included: a flipped classroom learning infographic; mutual evaluation, including two-stage assessment; use of standard grades (Z-score) testing; use of survey tools; self-assessment and re-evaluation of academic performance. Among all the studies, the largest part was taken up by the study of the impact of self-assessment on academic achievement (4 articles) using both classical and digital tools.

The studies included in the review were conducted in the USA (3), China (2), Australia (2), Croatia (2), Cyprus (1), Israel (1), Indonesia (1), United Kingdom (1), Albania (1), Turkey (1), Russia (1), Sri Lanka (1). The sample sizes in the studies varied, and data were mainly collected through experimentation and surveys.

Figure 4
Distribution of articles by research methods

The results of the systematic review showed that the assessment of educational achievements has not lost its relevance in recent decades, in particular through the development and implementation of new approaches and methodologies. The reviewed studies include justification for the effectiveness of the use of assessment in the learning process.

A systematic review of the assessment of learning achievements has identified two main areas that determine the design of the assessment process – the digital environment and the traditional offline environment. In each of these environments, it is possible to explore

approaches to assessing students' learning achievements that will most effectively ensure the quality of learning. The possibilities of assessment today are not only in determining the level of assimilation of educational material and readiness for professional activity. A review of studies found that one of the key components of various assessment procedures is to increase students' motivation to study and complete, which in turn improves the quality of education and the success rate of graduation.

Modern assessment of academic achievement expands the possibilities of digital learning by providing regular interaction and feedback for students and teachers. These studies explore a variety of assessment methodologies, such as mobile apps; use of traditional methods in the online environment (exams, presentations, reports, questionnaires, etc.); rating scales. A relatively new approach that needs to be explored in conjunction with ethical standards is to use the power of ChatGPT to improve the assessment process.

The use of mobile applications in the assessment process has a positive effect on the development of students' cognitive motivation through the use of a variety of learning resources with applications. Given the modern realities of the lives of students who spend a lot of time online, mobile applications provide the convenience of learning activities, since students can work with the application both in the classroom and at home (Lebedeva, 2023). An additional positive effect is the development of digital competence and literacy of young people.

Tools for student feedback in the assessment process used online can have a significant impact on students' academic performance (Chan, 2024; Zlatovic, 2015). Assessing the student's participation in the learning process through online subject discussion with their classmates and teachers, for example through the Edmondo platform, in "flipped learning" provides the opportunity for the teacher to gain additional information about the student's engagement, while providing a flexible approach (Bicen, 2019). Also, tools that include various types of online testing, online questionnaires, have a positive effect on the motivation of students. In addition, the choice of assessment format is interrelated with the learning strategy that students will use. The results of the Zlatovic study showed that the use of closed online tests for multiple-choice assessment mainly stimulates the emergence of a superficial learning strategy. On the contrary, choosing online assessment in the form of an essay stimulates students to develop deep learning strategies.

Artificial intelligence is one of the newest tools being introduced into the education system, including the process of assessing educational achievements. Universities widely use tools such as proctoring and anti-plagiarism programs to improve the quality of assessment. Relatively recently, another tool has appeared - ChatGPT (Chat Generative Pre-Trained Transformer), the extensive capabilities of which can transform and improve the assessment process at the university. Author Nicolic et al. (2021) conducted a study that used ChatGPT to assess the effectiveness of existing assessment tools and methodologies in higher education. ChatGPT can be used to provide students with instant feedback on assignments and assessments, allowing them to quickly identify where they need to improve their skills. In particular, this will be especially helpful for students who need extra support outside of class. In addition, ChatGPT can be used to grade assignments and provide feedback, reducing instructors' time to grade work.

Methods when students independently assess each other's academic achievements – peer assessment, mutual assessment – remain relevant. At the same time, it is necessary to organize this process in the most efficient way, and digital technologies can enhance the result. L Zheng (2016) combined and implemented a two-stage peer assessment and a series of collaborative learning activities. The format of the training was aimed at helping students develop knowledge and skills, familiarizing and carefully studying the work of their classmates, as well as analyzing and reviewing their own work through an application on mobile phones.

The results showed that two-step peer assessment using a mobile phone significantly increased students' academic performance, their awareness and critical thinking skills, and metacognitive awareness.

Also, the way in which the grades are presented, which reflect academic achievements, can have an impact on the motivation and competitiveness of students. In the study at the Israeli university, in addition to the main scores, the standard score of J Klein (2014) was also included in the statement. Typically, universities measure academic achievement on a scale ranging from A-F, 0-100, or 1-20. These grades reflect actual results without any statistical conversions, and in the absence of comparative information about the achievements of other students, they can be misinterpreted. In order to provide a more complete assessment of academic outcomes, it was suggested that a standard score be added to the progress report to indicate the relative position of students in their group. The results showed that students who are informed about their academic status become more competitive. Awareness of a student's status in comparison to other students contributes to personal achievement more than group interaction.

Formative assessment boils down to assessment that aims to provide students with feedback on the state of their knowledge to help them guide their further learning efforts. Even though formative online assessment, also called formative web assessment (Henly 2003), web quizzes and online quizzes they are positively received in higher education. The introduction of online formative assessments with feedback (correct answer) has had a significant impact on students' academic achievement, resulting in high levels of student satisfaction, improved performance in final exams compared to previous years, and increased workload efficiency through the application of technology (Nickol, 2009; Petrovic, 2017).

The researchers paid special attention to the use of self-assessment by students, which, according to the studies studied, has a positive effect on many aspects of learning (Andrade, Yan, Prasad). Self-assessment, carried out according to predetermined criteria, can be used as a formative one in the learning process, Andrade (2009). At the same time, such self-assessment is used not for assessment as a result, but in the process itself, thereby allowing you to identify the student's strengths and weaknesses in the subject in order to make improvements and contribute to quality learning.

In general, regular feedback during the assessment process can help identify students who are experiencing certain difficulties in the learning process. By analysing data related to student achievement, educators can provide additional support to these students during the process, adjusting the educational trajectory and thereby ensuring student-centered learning.

Modern methods of assessing educational achievements allow the teacher to solve a wide range of problems, while improving the educational results of students. Based on the results obtained, the authors offer a number of recommendations for the development of methods for assessing students' academic achievements:

1) The use of a standard assessment, as well as the ability to include this information in official gradesheets, could be useful both for students to increase motivation to learn, but also for employers in evaluating and ranking candidates, especially in an era of grade inflation.
2) The use of assessment methodologies that provide continuous operational feedback, such as formative assessment, will have a positive impact on motivation to learn and early identification of learning gaps.
3) The expansion of assessment tools through digital methods will allow the development of digital competencies of both students and teachers.
4) The introduction of self-assessment procedures used in the assessment process has a positive impact on both the assessment process and learning in general.
5) Consideration of the possibility of using artificial intelligence, in particular,

ChatGPT, for assessment procedures will strengthen their effectiveness and optimize the work of the teacher.

It should be noted that this review is limited in scope due to the selection criteria set out in the "Methodology" section. The choice of source databases and specific search engines used in this review also contributed to its methodological limitations. Studies that did not match the selected keywords as a descriptor for the title of the articles, as well as those that were not indexed in the original databases, were not included in this review.

In future reviews on similar topics, the scope of the search may be expanded to include other authoritative databases, specialized journals, or peer-reviewed conference proceedings. In addition, the application of different search strategies, keywords, selection and exclusion criteria can result in more relevant scientific publications for wider review.

Conclusions

In today's world, the assessment of knowledge and the assessment of educational achievements must be flexible and adaptive in order to take into account the rapidly changing conditions and requirements of education. A systematic review of the literature showed current trends in the development of assessment of educational achievement in digital and traditional environments. In the context of each of the environments, appropriate assessment strategies and methodologies are applied, which gives an idea of effective practices for assessing academic achievements in universities.

The results showed that it is necessary to use various assessment methods, such as exams, projects, written work, testing both in a traditional format and with the use of digital technologies - mobile applications, online tools, which will allow the teacher to fully assess the skills and knowledge of students and take into account their different ways of learning. The use of technology for assessment and feedback procedures will allow for more dynamic and flexible assessment methods, allowing students to track their learning progress in a timely manner.

Modern realities have raised the question of the introduction of artificial intelligence in education. In particular, the capabilities of such a tool as Chat GPT can be used not only for the assessment and analysis of learning outcomes, semantic analysis of the text of answers, but also for improving the assessment methods themselves.

The results of this study have important implications for educators and curriculum designers. By using the findings, educators and curriculum developers can improve the quality of assessment of learning achievement in teaching and learning, which will have a positive impact on the quality of learning.

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The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

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PEDAGOGICAL RESEARCH IN KAZAKHSTAN: ANALYSIS OF SCIENTIFIC PUBLICATIONS IN SCOPUS

Abstract: The relevance of this study is determined by the intensive development of pedagogical sciences in Kazakhstan. The aim of the work is to analyze trends in pedagogical research in Kazakhstan based on data from the Scopus database for the period from 2000 to 2023. The research methodology includes the collection of data on the keywords "education" and "Kazakhstan," their preliminary processing, and statistical analysis using SPSS to identify the main trends and directions of development in this scientific field. The results showed a gradual increase in the number of publications from 7 paper in 2000 to 287 in 2023, indicating an increased scientific interest in pedagogy in Kazakhstan. The geographical analysis revealed the leading role of Kazakhstan with 1531 publications, as well as significant contributions from researchers from the Russian Federation, the United States, and other countries, emphasizing the international importance of Kazakh pedagogical research. The thematic analysis of keywords confirmed the wide range of topics studied and the multidisciplinary approaches, highlighting educational reform, multilingualism in teaching, and the introduction of innovative technologies into the educational process as the main directions. The conclusions of the study emphasize the theoretical and practical importance of analyzing pedagogical publications for the further development of educational science in Kazakhstan and emphasize the need to continue comprehensive interdisciplinary research in this area.

Keywords: Kazakhstan, pedagogy, Scopus, educational research, academic trend, educational policy, international cooperation.

Introduction

In the modern world, where education plays a key role in the social and economic development of the country, pedagogical research is becoming particularly relevant. Kazakhstan, striving for integration into the global educational and scientific space, is actively working to improve the quality and competitiveness of its educational system. The analysis of scientific publications in the Scopus database related to pedagogical research in Kazakhstan allows not only to assess the current state and trends in the field of education but also to identify key areas for further research. Such an analysis contributes to the development of effective educational strategies and policies aimed at improving the quality of education, which, in turn, will contribute to the sustainable development of the country and increase its competitiveness in the international arena.

In recent years, considerable attention has been paid to pedagogical research in Kazakhstan, with a particular focus on various aspects of education and teaching practice. Research by Chinibayeva et al. (2020) and Zhilbaev et al. (2016) emphasizes the importance of comparative pedagogy and international studies in shaping the education system in Kazakhstan. These works emphasize the importance of theoretical analysis and participation in international rankings to stimulate pedagogical innovation. in addition, studies by Sanjyarova et al. (2021) and Kabbassova et al. (2021) explore the practical application of pedagogical methods, such as the use of interactive methods in teaching foreign languages and the study of the meta-subject potential of foreign languages in teaching natural sciences. These studies provide valuable information on the introduction of innovative approaches to learning into the educational landscape of Kazakhstan. Furthermore, the works of Tajibayeva (2023)

and Kussainov (2021) shed light on important aspects of student adaptation and anxiety in the learning process, especially in scenarios such as distance learning. Understanding and solving the psychological and pedagogical problems faced by students is crucial to creating an effective learning environment. Additionally, studies by Askarkyzy et al. (2017) and Kenzhetaeva et al. (2020) focus on changes in university management and assessment methods in Kazakh schools, respectively. These works highlight the need for continuous improvement and modernization of educational practices to meet the changing needs of students and society.

An analysis of scientific and publication activity in the field of pedagogy in Kazakhstan for the period from 2000 to 2023 was conducted through the Scopus database using the keywords "education" and "Kazakhstan". The analysis revealed significant interest in this area, as confirmed by the published works in 2023. Most of the studies (1,531 publications) were carried out by Kazakhstani scientists, which indicates the active development of this field within the country. At the same time, researchers from the Russian Federation (256 publications), the United States (160 publications), the United Kingdom (212 publications), and other countries have made significant contributions, highlighting the international interest and transnational nature of research in the field of pedagogy. This indicates the importance of cooperation and knowledge exchange for the further development of educational practices and techniques not only in Kazakhstan but also beyond its borders. The use of VOSviewer and Bibliometrix tools for bibliometric analysis, as noted by Cruz-Lovera et al. (2017), as well as an in-depth search for specific keywords in Scopus, highlighted in the works of Pakkan et al. (2022) and Akkaya & Ertekin (2021), has become standard practice in scientific research. This not only provides comprehensive coverage of citations and literary extracts but also expands the profile of journals, improving access to scientific publications and contributing to citation analysis.

The purpose of our research is a comprehensive analysis of scientific publications in the field of pedagogical research in Kazakhstan, indexed in the Scopus database. We strive to identify the main trends, developments, and key directions in this dynamically developing field, with an emphasis on identifying the dominant themes, techniques, and approaches that shape modern teacher education in Kazakhstan. Our analysis is aimed at identifying gaps in existing research, identifying poorly studied or innovative areas where future research can make a significant contribution to the theoretical and practical development of pedagogy. This approach will allow the academic community to focus on these gaps, thereby contributing to innovation and improving the quality of the educational process in Kazakhstan, especially in the context of the rapid development and introduction of new educational technologies and techniques.

Literature review

An analysis of scientific publications in Scopus," we will focus on current trends in pedagogical education in Kazakhstan, which have had a significant impact on the development of this field. Our research is aimed at examining various factors, including the prosperity of educational programs and the general educational context in the country, in the context of modern international practice. We rely on the work of Sharplin et al. (2020), which emphasizes the importance of bringing teacher education practices in line with global standards to improve the quality of education. A study by Yakavets et al. (2017) delves into the analysis of the structures and construction of professional knowledge of teachers in the post-Soviet context, emphasizing the importance of professional development and the role of pedagogy in the formation of teacher education in Kazakhstan. These works emphasize the need for continuous improvement and adaptation of pedagogical practices to the changing requirements of the educational sector. in addition, the study by Jumakulov and Ashirbekov (2016) provides important information on the international integration of higher education in Kazakhstan, highlighting the growing attention to integrating international perspectives into teacher

education to improve the quality and relevance of educational practices. Movkebayeva et al. (2020) highlight the factors influencing the legal regulation and management of the educational system in Kazakhstan, highlighting the difficulties associated with the modernization and legislation of higher education in the country, which emphasizes the importance of analyzing and overcoming these challenges for the effective implementation of modern trends in education.

Innovative teaching methods play a key role in improving the learning experience and outcomes for students. Studies by Joensuu-Salo et al. (2020) show that teachers who are more innovative and willing to take risks are more likely to use entrepreneurial teaching methods. Eli (2021) notes the widespread use of gaming methods among innovative educators. Cai and Liu (2022) point out how innovative approaches allow music students to better understand and express music. Subramanian and Kelly (2018) suggest using blogging, podcasting, and social embedding to improve learning in engineering education, while Puranik (2020) examines various innovative teaching methods in higher education to improve student employability and skills development. Yilmaz and Bayraktar (2014), as well as Zhang (2020), emphasize the importance of teachers' attitude towards the adoption of educational technologies and their individual innovativeness for the successful implementation of such methods.

International cooperation and integration in the field of pedagogical research play a key role in improving educational practices not only in Kazakhstan but also around the world. The study by Kewalramani and Havu-Nuutinen (2019) demonstrates how international research can help understand how preschool teachers use technology to involve children in scientific research, emphasizing the importance of intercultural perspectives in education. The work of Li et al. (2022) emphasizes the importance of pedagogical communities in the development of open education and interaction, which is evidence of the benefits of collaborative efforts to improve educational practices. Evans et al. (2020) point to the need for international cooperation to establish formalized standards and sources of funding for pedagogical research in the United States, which underscores the global need for collaboration to enhance the status of pedagogical research. Garwood and Poole (2021) draw attention to the role of information professionals in integrating pedagogical documentation with the life cycle of research, highlighting the need for interdisciplinary interaction in educational research.

In conclusion, international cooperation and integration in pedagogical research open up new horizons for the educational system of Kazakhstan, facilitating the exchange of knowledge, experience, and innovative practices between countries. This not only contributes to improving the quality of education in Kazakhstan but also strengthens its international ties and contribution to the global educational community. Thus, the focus on international integration and cooperation within the framework of pedagogical research is a strategically important area for further development and innovation in education in Kazakhstan.

Methods and organization of research

Materials

As part of the study, 2025 scientific publications identified by the keywords "education" and "Kazakhstan" for the period from 2000 to 2023 were analyzed. These publications were selected in order to understand the development and current state of pedagogical research in Kazakhstan, as well as to identify key trends and directions in this field.

A careful selection approach was applied to the work, which covered a wide range of research types, including 1,592 journal articles, 206 conference reports, 91 book chapters, 66 reviews, as well as other scientific materials illustrating the comprehensive and diverse nature of research in the field of education. A total of 2,023 scientific papers were analyzed, taking into account both the annual growth in the volume of publications and the degree of their scientific impact. This included an assessment of the contributions made by leading journals in

the field. Among them, the Cyprus Journal of Educational Sciences and the Life Science Journal should be noted, each of which has 52 publications, followed by the World Journal On Educational Technology Current Issues with 46 publications. Other significant journals participating in the discussion include Opcion, Espacios, and the international Journal of Environmental and Scientific Education. These publications have played an important role in stimulating discussions and disseminating important research related to the educational landscape of Kazakhstan.

The materials selected for analysis historically cover the period of significant educational reforms in Kazakhstan, including the introduction of new educational standards and educational technologies, which make them especially relevant for study. The study aims to determine the impact of international and local trends in education on teaching practice in Kazakhstan, as well as to identify gaps and opportunities for future research in this dynamically developing field.

Instrument

The Scopus database serves as the main data collection tool in our study "Pedagogical Research in Kazakhstan: Analysis of scientific publications in Scopus." It is an authoritative resource covering a wide range of scientific publications, which provides unique analytical opportunities for tracking research trends and citations in various fields of knowledge, including pedagogy. The use of Scopus eliminates subjectivity in the selection of materials and provides comprehensive coverage of relevant scientific papers on the subject of education in Kazakhstan.

Data analysis will be carried out using the statistical software package SPSS, which offers powerful tools for performing descriptive statistical analysis, correlation and regression analysis, as well as multi-level modeling. This choice is due to the convenience of data visualization and the ease of interpretation of the results obtained. SPSS makes it possible to efficiently process large data sets and carry out complex statistical procedures, which are critically important for our research, given the versatility and dynamism of changes in the pedagogical landscape of Kazakhstan.Additionally, for in-depth qualitative analysis and interpretation of scientific papers, we will use content analysis methods to identify common topics, theoretical frameworks, methodological approaches, and gaps in existing research. These methods of qualitative analysis will be applied to decompose research developments into components and examine the structure and content of scientific discourses in pedagogical research in Kazakhstan.

Thus, Scopus and SPSS, in combination with methods of qualitative analysis, create a comprehensive methodological toolkit that allows for a comprehensive analysis of pedagogical research in Kazakhstan. This analysis aims to reflect its evolution and contribution to educational science and form the basis for subsequent research in this field.

Procedure

The procedural approach to the analysis of the study "Pedagogical research in Kazakhstan: Analysis of scientific publications in Scopus" is organized into several stages, each of which is key to achieving the integrity and reliability of the results.

Stage 1: Data collection. Using the Scopus database, we will search for publications using the keywords "education" and "Kazakhstan" for the period from 2000 to 2023. This will create a database for subsequent analysis, including information about publication years, document types, and the number of works each year. Special attention will be paid to identifying the dynamics of the growth in the number of studies during this period.

Stage 2: Data preprocessing. The resulting dataset will undergo preprocessing in SPSS, which includes checking for duplicates, omissions, and identifying anomalies in the data. This stage ensures the purity and accuracy of the data for analysis.

Stage 3: Statistical analysis. Based on the processed data, a descriptive statistical analysis will determine general trends. inference analysis will also be conducted, including testing hypotheses about the presence of statistically significant relationships and differences between groups of publications. The frequency and trends of changes in the number of publications over time will be calculated for each type of document.

Stage 4: in-depth analysis and interpretation. The next step involves conducting a deeper analysis of the data. Key journals and platforms for publishing research on pedagogy in Kazakhstan will be identified. The most cited works will be analyzed, and the main research centers and authoritative sources will be identified. This allows for an understanding of the scientific contribution of Kazakhstani researchers to the global pedagogical community.

Stage 5: Visualization of the results. The analysis results will be visualized to provide a more visual representation of the main conclusions. This will include graphs displaying the distribution of publications by year and diagrams showcasing leading journals, among other visual representations.

Stage 6: Report generation. At the final stage, a detailed report will be compiled that combines all the analytical data and interpretations formed during the research process. This document will serve as the basis for a scientific article and can be used in further research.

Each of these steps is an integral part of the methodological process that guarantees the reproducibility of the study and ensures the scientific rigor of the results.

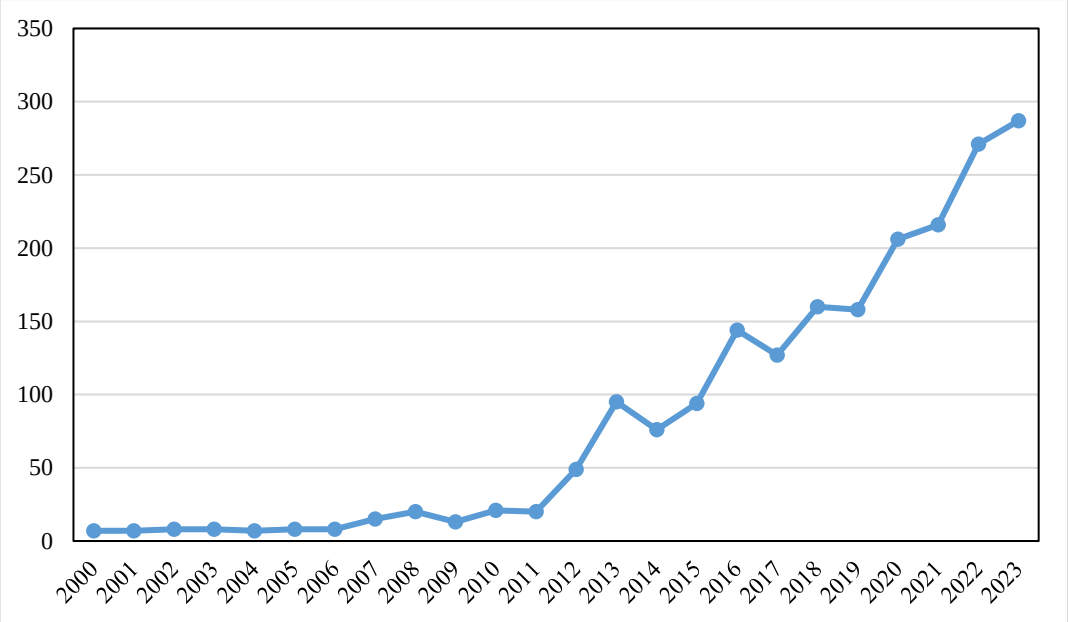
Research results and their discussion

The current section presents the results of the analysis of pedagogical research in Kazakhstan based on publications indexed in the Scopus database for the period from 2000 to 2023. Carrying out a thorough analysis, we tracked the dynamics of publication activity over the years, which revealed an increase in interest in educational topics in the academic community of Kazakhstan. The distribution by country indicates the leading role of Kazakhstani scientists, while international cooperation is also noted as a significant factor. The sectoral analysis by branches of knowledge highlighted the multidisciplinary nature of pedagogical research, and the analysis of keywords in the titles of publications reflected the prevailing trends in research. Through the review of leading journals, we identified the main platforms for discourse in the field of education, and the citation showed the influence of research and its contribution to the development of pedagogical science. Thus, the results indicate pronounced trends and patterns in pedagogical works, which emphasizes the importance of continuing research activities in this field.

The analysis of the dynamics of scientific publications in the field of pedagogical sciences in Kazakhstan, as reflected in the Scopus database from 2000 to 2023, reveals a significant increase in academic interest in this field of knowledge. in 2000, only 7 works were registered, and by 2003, this number remained relatively stable. However, since 2007, there has been a steady increase in the number of publications, reaching 15 works. This growth became more pronounced after 2012, when the number of publications more than doubled compared to the previous year, reaching 49 papers. This rise continued in subsequent years, with a particularly noticeable increase from 2013 to 2016, when the number of publications increased from 95 to 144, respectively (see Figure 1).

Figure 1

Dynamics of publication activity in the field of pedagogical research in Kazakhstan: analysis of Scopus data for 2000-2023 (Source: own calculations based on data from publications indexed by Scopus)

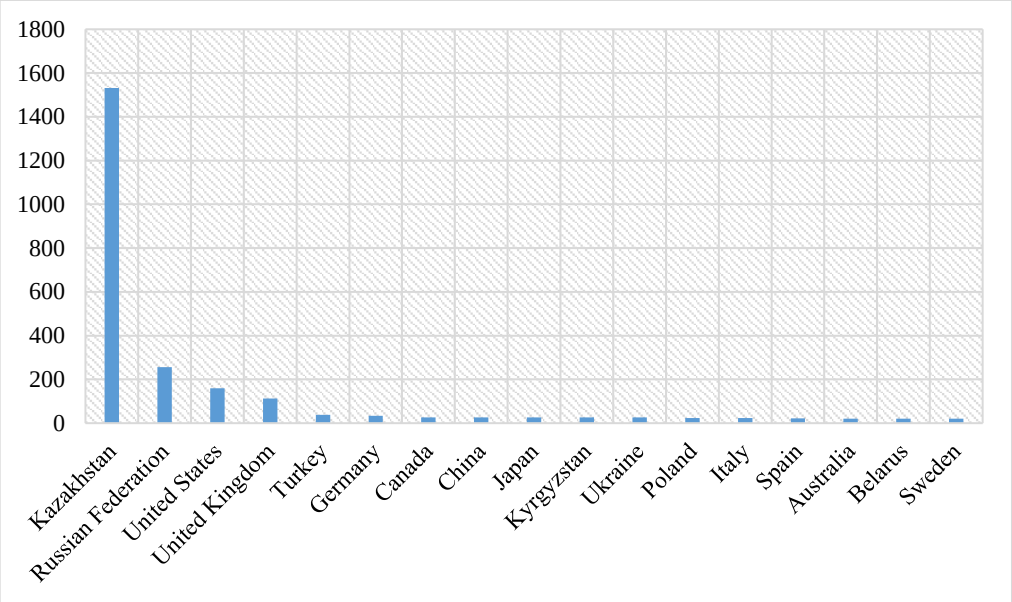


Following this trend, by 2023, the number of pedagogical publications indexed by Scopus reached a peak of 287 papers. This indicates the increasing contribution of Kazakhstani scientists to the global scientific community and the development of research infrastructure in the country. The continuous growth in the number of studies in this field may be associated with government support for educational initiatives, as well as with the growing recognition of the importance of pedagogical innovations and international exchange of experience in the educational process. These factors are likely to contribute to a further increase in the quality and quantity of pedagogical research in Kazakhstan.

Turning to the analysis of publication activity by country, the data show that researchers from Kazakhstan make the greatest contribution to the development of pedagogical sciences with 1,531 publications. This reflects a strong academic environment and a focus on educational research within the country (Figure 2). The Russian Federation ranks second with 256 papers, emphasizing the close research and cultural ties between these countries. The United States and the United Kingdom follow with 160 and 112 publications, respectively, demonstrating significant international interest in Kazakh pedagogical science.

Figure 2

Geographical distribution of pedagogical publications by country: analysis of country contributions to scientific research in Kazakhstan: analysis of Scopus data for 2000-2023 (Source: own calculations based on data from publications indexed by Scopus)

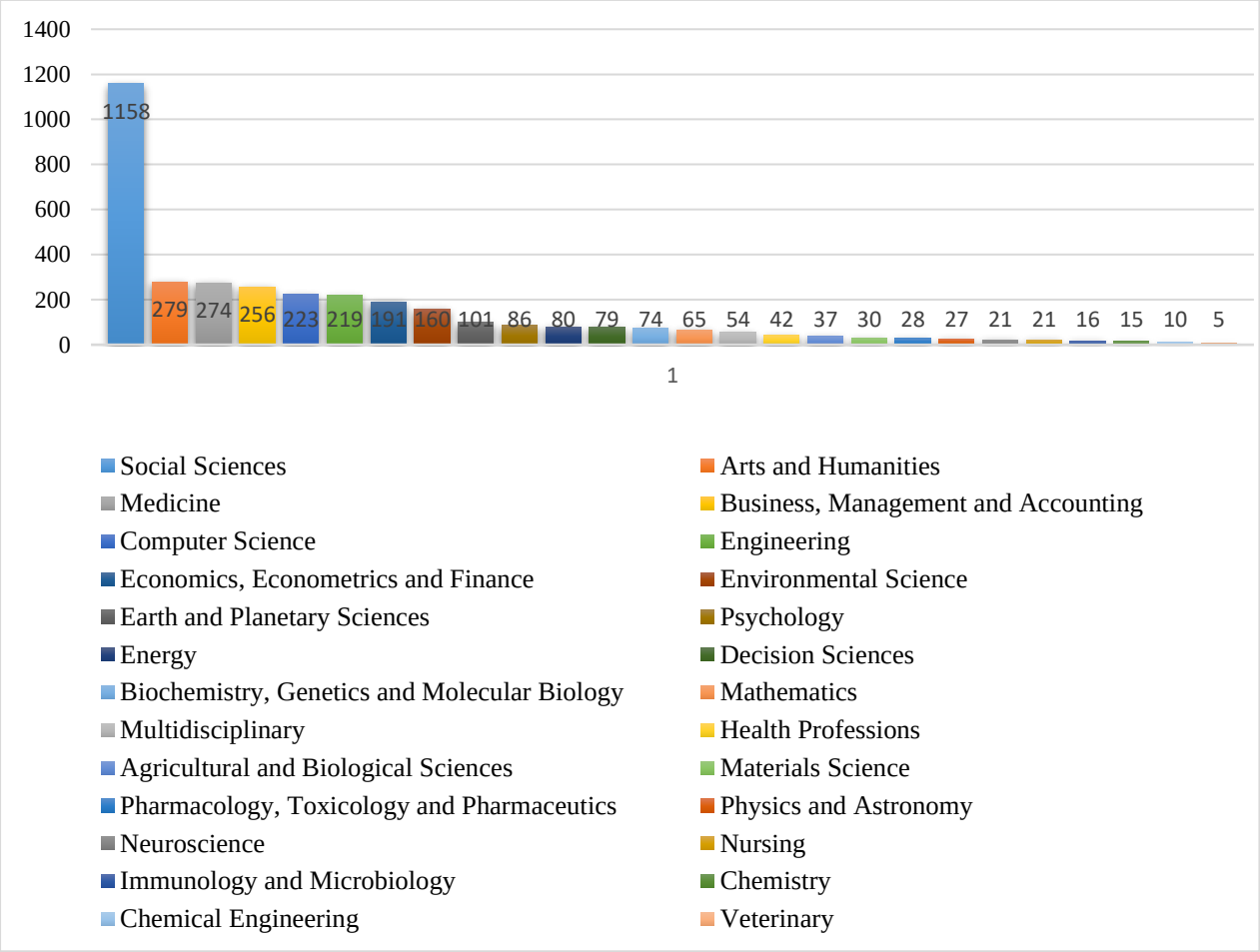


Further analysis of the distribution of publications by country reveals the participation of authors from more than 50 countries around the world, which indicates a global interest in the pedagogical science of Kazakhstan. Turkey, Germany, and other European countries, as well as Asian countries, make significant contributions, highlighting the multicultural and international nature of research in this field. Such wide geographical participation reinforces Kazakhstan's position as a significant center for pedagogical research and knowledge exchange in the international educational community.

An analysis of the sectoral distribution of scientific publications related to pedagogy in Kazakhstan shows the predominance of social sciences, which occupy a leading position with 1,158 works, emphasizing the multidisciplinary nature and importance of education in a social context (see Figure 3). Arts and humanities, with 279 publications, as well as medicine, with 274 publications, also occupy a significant share, reflecting the relationship of pedagogy with cultural development and the health of society. Publications in the fields of business, management, and accounting (256 papers) and computer science (223 papers) highlight the growing role of educational innovation and information technology in the modern educational process.

Figure 3

Distribution of pedagogical publications by branches of knowledge: an interdisciplinary view of scientific research in Kazakhstan: analysis of Scopus data for 2000-2023 (Source: own calculations based on data from publications indexed by Scopus)

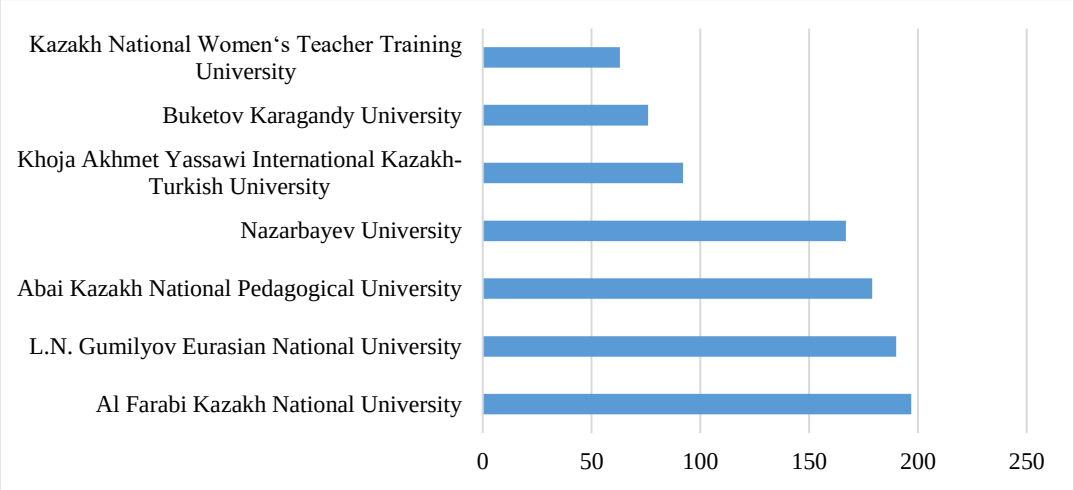


In engineering sciences, with 219 publications, the importance of engineering education and its integration with pedagogical research is emphasized. This contributes to the development of innovative learning and technological progress. On the other hand, branches of knowledge such as materials science, pharmacology, and astronomy, despite having fewer publications, are important for the development of specialized and interdisciplinary training programs. This set of disciplines, which reflects publications in this field, shows a wide range of applications of pedagogical principles and approaches in various fields of knowledge, reflecting the complex nature of educational science.

A study of the activity of scientific publications on organizations engaged in pedagogical research in Kazakhstan reveals the leading positions of major universities in the country. Al-Farabi Kazakh National University tops the list with 197 publications, reflecting its status as the leading research center in the region (see Figure 4). L.N. Gumilyov Eurasian National University with 190 publications and Abai Kazakh National Pedagogical University with 179 papers also make a significant scientific contribution to the development of pedagogical sciences.

Figure 4.

Distribution of publications on pedagogical research among leading organizations in Kazakhstan: analysis of Scopus data for 2000-2023 (Source: own calculations based on data from publications indexed by Scopus)

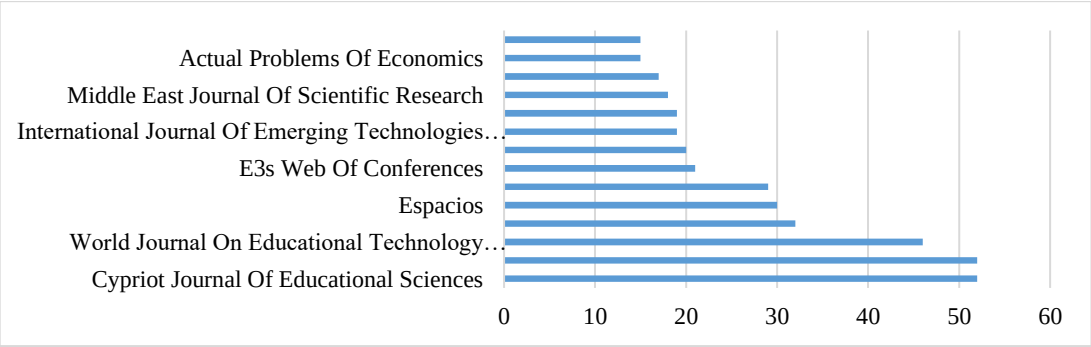


Nazarbayev University, with 167 publications, demonstrates a high level of research work, strengthening its position as a center of innovation and scientific growth. The international Kazakh-Turkish University named after Khoja Akhmet Yasawi, with 92 works, and Bouquets Karaganda University, with 76 publications, also significantly contribute to the expansion of the country's research base. This diversity of leading universities highlights Kazakhstan's commitment to strengthening academic cooperation and developing pedagogical knowledge, which, in turn, promotes global exchange and innovation in education.

An analysis of publication activity in scientific publications dealing with the topic of pedagogical research in Kazakhstan shows that the "Cypriot Journal Of Educational Sciences" and the "Life Science Journal" share leadership, with 52 publications each, emphasizing their important role in the dissemination of scientific knowledge in the field of education (see Figure 5). The World Journal On Educational Technology Current Issues, with 46 publications, highlights the impact of technology in modern teaching practice, while Opcion and Espacios, with 32 and 30 articles, respectively, stand out as active platforms for discussions in the field of education and social sciences..

Figure 5

Key scientific publications in the field of pedagogical research in Kazakhstan: analysis of Scopus data for 2000-2023 (Source: own calculations based on data from publications indexed by Scopus)



The importance of the international journal of Environmental and Science Education with 29 articles testifies to the growing interest in environmental education, which is important in the context of global challenges of sustainable development. Journals such as E3s Web of Conferences and Man in india, with 21 and 20 publications respectively, demonstrate a more specialized academic interest, reflecting a wide range of research and highlighting Kazakhstan's contribution to the international scientific arena. This variety of publications shows the multidisciplinary nature and depth of pedagogical research conducted in Kazakhstan, and their importance to the global educational community.

Keywords in the titles of scientific publications are an indicator of thematic accents in research and help to identify subject areas that are most relevant in a particular field of knowledge. in the context of pedagogical research in Kazakhstan, the word "Kazakhstan", which appears in the names 849 times, not only indicates geographical specificity but also emphasizes the national context of research. "Education", mentioned 613 times, stands out as the central theme, while "Development" and "Students" with 217 and 187 mentions respectively reflect the focus on educational progress and student life (see Table 1).

Table 1

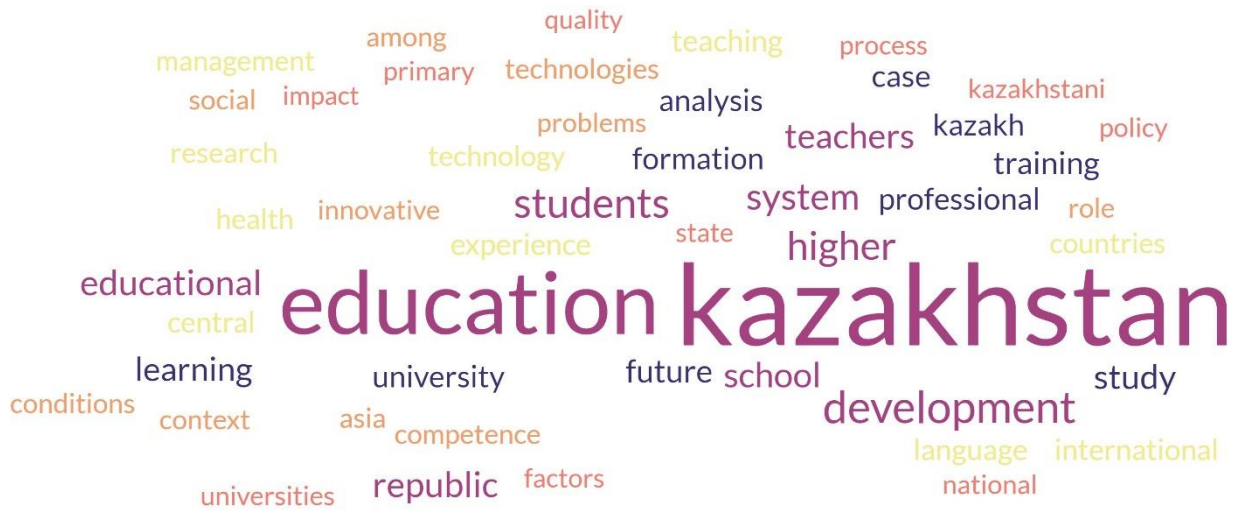
The prevalence of keywords in scientific publications on pedagogical research in Kazakhstan: analysis of Scopus data for 2000-2023 (Source: own calculations based on data from publications indexed by Scopus)

Keywords	Number Of Keywords
Kazakhstan	849
Education	613
Development	217
Students	187
Higher	170
System	147
Educational	137
Republic	134
School	127
Teachers	126
Study	122
Learning	113
Future	101
Training	98
Case	93
University	89
Formation	88
Analysis; Professional	87
Kazakh	84
Teaching	83

Experience	79
Language	78
International	76
Central	73
Research	70
Health; Technology; Countries	69
Management	67
Technologies	65
Asia	63
Context; Conditions	62
Among; Competence; Social	61
Role	57
Problems; innovative	56
National	55
Universities; Primary	54
Kazakhstani; Policy	53
Factors; Process	51
State	50

Figure 6

Keywords and thematic areas in pedagogical research in Kazakhstan are identified in scientific articles based on the analysis of publications in Scopus.



The terms "Higher" and "System" are also highlighted, which are present in the names 170 and 147 times, reflecting attention to higher education and educational systems. The words "Educational" and "Teachers", with 137 and 126 mentions, emphasize the importance of educational processes and the professionalism of teachers. The keywords "Learning", "Future", and "Training", appearing 113, 101, and 98 times, respectively, indicate the dynamic

development of research aimed at studying teaching methods, educational prospects, and training specialists. These data illustrate the diversity of research interests and approaches in the pedagogical field of Kazakhstan, emphasizing the importance of educational research for social development and the global scientific community.

The citation analysis of key scientific papers covering a wide range of topics in the field of education in Kazakhstan provides a unique look at current trends and leading research areas in this field. The data presented in Table 2 draws attention to the top 10 papers, each of which scored more than 50 citations. Based on the Scopus database, works with a high citation level have been identified, which emphasizes their significant contribution to the development of pedagogical sciences. For example, the 99-citation study "Private tutoring in Eastern Europe and Central Asia: Policy choices and implications" (Silova, 2010) explores the politics and consequences of private tutoring, standing out in the context of educational policy and practice. It is also worth noting the work of "Educational mobility and the gendered geography of cultural capital: The case of international student flows between Central Asia and the UK" (Holloway et al., 2012), which scored 96 citations and highlights gender geography and educational mobility. These and other highly cited articles reflect important research interests and accents in the field of education in Kazakhstan..

Table 2

The impact and directions of research in the pedagogical sciences of Kazakhstan are based on the citation analysis (Source: own calculations based on data from publications indexed by Scopus).

Authors	The title of the work	Classification	Type of work	Cit.
(Silova, 2010)	Private tutoring in Eastern Europe and Central Asia: Policy choices and implications	Educational policy and private tutoring	Article	99
(Holloway et al., 2012)	Educational mobility and the gendered geography of cultural capital: The case of international student flows between central Asia and the UK	Gender geography and educational mobility	Article	96
(Knox-Hayes et al., 2013)	Understanding attitudes toward energy security: Results of a cross-national survey	Sociology and perception of energy security	Article	82
(Chankseliani et al., 2021)	Higher education contributing to local, national, and global development: new empirical and conceptual insights	Higher education and its contribution to development	Article	81
(Fierman, 2006)	Language and education in post-Soviet Kazakhstan: Kazakh-medium instruction in urban schools	Language and education in the post-Soviet space	Article	72
(Lee and Kuzhabekova, 2018)	Reverse flow in academic mobility from core to periphery: motivations of international faculty working in Kazakhstan	Academic mobility and international staff in education	Article	66
(Sovacool et al., 2012)	Exploring propositions about perceptions of energy security: An international survey	International research on energy security perceptions	Article	64
(Agrawal, 2007)	Economic growth and poverty reduction: Evidence from Kazakhstan	Economic growth and poverty reduction	Article	55
(Koch, 2014)	The shifting geopolitics of higher education: inter/nationalizing elite universities in Kazakhstan, Saudi Arabia, and beyond	The geopolitics of higher education and globalization	Article	53
(Tokbolat et al., 2020)	Construction professionals' perspectives on drivers and barriers of sustainable construction	Sustainable construction and its factors	Article	50

Further, analyzing the trends and topics of citation, one can see a variety of research interests covering both traditional and innovative fields of pedagogy and education in Kazakhstan. The works devoted to the issues of academic mobility, economic growth and poverty reduction, as well as the geopolitics of higher education, emphasize the multidimensional nature of the research field. An important area is also the study of sustainable construction and its factors, which indicates a growing interest in the problems of sustainable development. in general, the identified trends and recommendations for future research can serve as a basis for further analysis and development of educational strategies and policies that promote innovative and inclusive development of pedagogical science in Kazakhstan.

Summarizing the results of our analysis of pedagogical research in Kazakhstan, we can note the growing academic interest in this field, confirmed by an increase in the number of publications during the study period. The geographical analysis highlighted the leading role of Kazakhstan, as well as the importance of international cooperation. The industry analysis revealed the dominance of the social sciences and the emphasis on innovative approaches in education. The contribution of the organizations underlines the country's desire to strengthen scientific positions in the field of pedagogy, and the analysis of journal publications reflects the strategic direction of scientific research. Finally, the study of citations showed which works had the greatest impact on the development of pedagogical science, emphasizing the importance of such topics as educational reforms, multilingualism in teaching, and the integration of innovative technologies into the educational process.

The study of pedagogical research in Kazakhstan aimed to analyze the dynamics of publication activity and identify key areas of scientific work in education. The task was not only to track quantitative indicators, such as the growth in the number of publications in recent years, but also to understand which topics and research issues are receiving special attention from scientists in the context of Kazakh education. This comprehensive approach allowed us to shed light on current trends in pedagogical research and identify the main theoretical and practical directions that will contribute to the further development of the educational sphere in the country. An important part of the work was the study of the impact of international cooperation and global educational trends on local pedagogical practices and theories, which opens up new prospects for the integration of Kazakhstan into the global educational space.

The analysis showed a significant increase in the number of publications, which, according to Rancan et al. (2021), may be due to increased investments in educational institutions and the introduction of new educational concepts, such as a cultural and historical approach (Meshcheryakov et al., 2022). This is also confirmed by the work of F et al. (2022), indicating an increase in the research activity of teachers. The interest in public health education and its development (Armstrong-Mensah et al., 2019), as well as the impact of educational initiatives on improving health (Yan et al., 2022), demonstrates the importance of educational efforts in various fields.

Works by Pérez et al. (2021) and Spring (2008) emphasize the dynamic interaction of global and local influences on educational structures. Research such as Liu and Li (2019) and Simaan (2020) emphasize the need for culturally responsible pedagogies that combine local and global contexts, contributing to the decolonization of educational approaches. Kazakhstan has made a significant contribution to the development of pedagogical concepts, as shown by the research of Želvys et al. (2014) and Nurbatsin (2020), who studied aspects of education management and innovation. Hanley (2021) on the introduction of empathic pedagogy in global citizenship education and Wilson and Sharimova's study (2019) on the practice of Lesson Study (LS) in Kazakh classrooms emphasize the practical application of pedagogical concepts to improve teaching methods. Our research has revealed Kazakhstan's significant contribution to the international educational and scientific community, highlighting the

country's commitment to integrating global educational standards and innovative practices. The analysis of 101 scientific papers selected by the keywords "education" and "Kazakhstan" from the Scopus database revealed significant potential for the further development of the educational system in Kazakhstan. However, it also pointed out the essential need to strengthen the research base and create conditions for innovative learning. The country faces the task of comprehensively updating the educational paradigm, including updating curricula, improving the skills of teachers, and introducing advanced technologies. Special attention should be paid to the development of interdisciplinary research and deepening cooperation between educational institutions at all levels, which will be the key to creating sustainable partnerships and knowledge sharing.

Based on the analysis of 2025 scientific papers on various aspects of education in Kazakhstan reflected in the Scopus database, a thematic analysis was conducted. As a result, the following 12 areas for future research in the field of pedagogy were identified:

1. *Digital Transformation in Education*: Examine the long-term impact of digital transformation on learning outcomes, teacher readiness, and student engagement, especially in response to the acceleration of online learning due to the COVID-19 pandemic.

2. in*clusive Education Practices*: Examine the effectiveness of inclusive education strategies for children with disabilities, focusing on integration methods, teacher training, and student outcomes.

3. *Multilingual Education*: Explore the challenges and successes in implementing the trilingual education policy in Kazakhstan, paying special attention to the sociolinguistic and cultural implications for learning Kazakh, Russian, and English.

4. *Educational policy and reforms:* Analyze the impact of recent educational reforms in Kazakhstan, taking into account international influence, adaptation to local conditions, and the balance between global trends and national identity.

5. *STEM Education*: Explore the impact of STEM initiatives (science, technology, engineering, mathematics) on youth interests, education and career choices, and explore gender differences in these areas.

6. *Environmental education*: Explore the integration of environmental sustainability into the curriculum and the development of environmental awareness among students as a response to global climate challenges.

7. in*ternationalization of higher education*: Assess the impact of internationalization strategies on higher education in Kazakhstan, including student mobility, academic cooperation, and the establishment of international university campuses.

8. *Vocational education*: Assess the relevance of vocational education programs to the needs of the labor market, paying special attention to the development of appropriate skills for a developing economy.

9. *Teacher training*: Examine the effectiveness of professional development programs in improving the competence of teachers, especially in rural areas, and their impact on the quality of education.

10. *Educational Migration*: Explore the trends, motivations, and outcomes of educational migration from and to Kazakhstan, with an emphasis on the implications for brain drain or profit.

11. *Socio-economic factors in education*: Analyze the relationship between socio-economic status and access to education, achievements, and outcomes, identifying strategies to mitigate inequality.

12. *Religious education*: Explore the role of religious education in the secular education system of Kazakhstan, considering its impact on social cohesion, cultural identity, and interfaith understanding.

These recommendations take into account the breadth of topics that have been addressed in the scientific literature and also recognize areas where further study could provide valuable information to educators, policymakers, and other stakeholders in the education sector in Kazakhstan.

Conclusion

In conclusion, our study on pedagogical research in Kazakhstan summarizes the results of an extensive analysis of scientific papers published in this field. Our research has shown that pedagogical science in Kazakhstan is actively developing, reflecting both global trends in education and unique local needs and contexts. Throughout our work, we discovered a significant increase in the number of publications, indicating a growing interest in research in the field of pedagogy and education.

The purpose of our study was not only to track quantitative indicators, such as the increase in the number of publications in recent years, but also to understand which topics and research issues receive special attention from scientists in the context of Kazakh education. This comprehensive approach allowed us to identify current trends in pedagogical research and determine the main theoretical and practical directions that will contribute to the further development of the educational sphere in the country.

We found that Kazakhstani scientists actively participate in the international academic dialogue, contributing to the development and adaptation of innovative educational methods and approaches. Our analysis also highlighted the importance of interdisciplinary collaboration and the need to integrate new technologies into the educational process. The study identified several key areas in which Kazakh education can develop, including improving the quality of teacher training, developing inclusive educational programs, and increasing attention to the digitalization of learning.

A necessary aspect of our research is to emphasize the need for constant analysis and monitoring of pedagogical research to ensure the adaptation of Kazakhstan's educational system to the changing requirements of the modern world. This involves not only the introduction of new approaches to teaching and curriculum development, but also an in-depth study of the effectiveness of these innovations in practice.

We are convinced that our research contributes to a better understanding of the current state and prospects for the development of pedagogical science in Kazakhstan. It opens up new areas for further research and offers a framework for strategic planning in the field of educational policy and practice aimed at supporting the sustainable development of the country's education system in the context of globalization and technological change.

Thus, our study highlights the importance of continuing scientific activities in the field of pedagogy, which will contribute to improving the quality of education and strengthening Kazakhstan's position in the international educational community.

Conflict of interest Statement

The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article

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APPLICATION OF PRACTICE-ORIENTED EDUCATION TECHNOLOGIES IN TRAINING STUDENTS IN ENGINEERING AND SCIENCE SPECIALTIES

Abstract: Modern social, economic, technical transformations make adjustments in the organization and training of personnel in engineering and natural science specialties, in the basic elements of the structure and content of educational programs. Adjustment of educational programs taking into account modern trends allows providing graduates with competitive advantages in the labor market. At the same time, the problems related to the imbalance of theoretical and practical training, the gap between the skills and competencies formed in students and the needs of the industrial sector, non-adaptation of technologies and teaching methods to the specifics of academic disciplines and expected learning outcomes are still relevant in engineering and science education. Accordingly, the aim of the work was to analyze the peculiarities of application of practice-oriented learning technologies in engineering and science training. In this work the most important learning outcomes for students and employers were determined, the main deficiencies in the skills and competencies of graduates were identified, students' satisfaction with the quality of organization and conduct of practical classes and professional practices was assessed, practice-oriented educational technologies used in teaching professional disciplines were ranked by the degree of importance. Based on the obtained results, a significant correlation between the responses of students and employees of companies/enterprises has been established, the effectiveness of the application of practice-oriented educational technologies to increase students' motivation for learning and responsibility for learning outcomes has been shown, it has been established that employees of companies/enterprises attach greater importance to learning outcomes related to the development of students' personal, social and technical skills and competencies.

Keywords: practice-oriented educational technologies, experiential learning, case-based learning, project-based learning, workplace learning, engineering education, science education

Introduction. Application of practice-oriented education technologies in training students in engineering and science specialties

The 21st century is characterized by rapid and profound changes in society, science, technology and economy. New, diverse professions related to engineering and natural sciences have appeared on the labor market. The ongoing changes have made adjustments in the organization and training of personnel, in the applied technologies and teaching methods, forms of content delivery, influenced the development of e-learning and digital tools, which provided greater flexibility of the whole learning process, its individualization, expanded learning resources, increased the role of blended and integrated learning (Basavaiah et al., 2021;

Karstina, 2021; Karstina, 2022a). The current trends in engineering and science education are product orientation, commercial potential, and integration with technology. Environmental, social and industrial aspects are gradually becoming the basic elements in the structure and content of engineering and natural science educational programs, which allow introducing students to 1) scientific, technological and mathematical principles of case studies or projects being implemented, including workplaces created in partner companies and enterprises, 2) principles of environmental safety, 3) principles of social interaction through role-playing games, group project work, joint research of real situations and others, 4) principles of social responsibility for proposed technological and innovative solutions (Gutierrez-Bucheli et al., 2022; Udeozor et al., 2022). Educational institutions that have adjusted their educational programs to modern trends provide their graduates with competitive advantages in the labor market, mastering not only professional competencies, analytical skills, but also information technologies in the professional sphere, developing contextual understanding of the needs for technological and sustainable solutions, practical ingenuity, effective adaptation to technological innovations, the ability to integrate knowledge and methods from different fields of knowledge, acting in complex and non-standard situations, career planning (Basavaiah et al., 2021; Karstina, 2022a,2022b; Karstina, 2021; Zaher et al., 2023; Anwar et al., 2022). At the same time, in engineering and science education there are still urgent problems, the solution of which should ensure 1) bridging the gap between the university educational program and skills required for industry, 2) balance between theoretical and practical training of students, 3) increasing motivation and responsibility of students in achieving learning outcomes, 4) interactivity, flexibility and comfort of the learning process, 5) adaptation of teaching methods and their combinations to the specifics of the disciplines taught, students' needs, goals and expected learning outcomes, 6) orientation of the learning process to a specific result. In solving these problems, an important role is played by the application of practice-oriented educational technologies, including project-based learning, workplace learning, experience-based learning, contextual learning, case technologies, "flipped classroom", simulation-based learning, intellectual learning in the laboratory, game-based learning and others.

Purpose and Tasks of the Present Study

The purpose of this paper was to analyze the peculiarities of application of practice-oriented learning technologies in the training of engineering and science personnel in universities and colleges. In order to achieve the purpose, the following tasks were set in the work: 1) determination of the most significant for students and employers learning outcomes of engineering and natural science profile educational programs; 2) identification of the main shortcomings in skills and competencies of engineering and natural science graduates; 3) assessment of students' satisfaction with the quality of organization and conduct of practical classes and professional practices by universities and colleges, the degree of competencies, knowledge, skills necessary for employment in the specialty; 4) ranking the importance of practice-oriented educational technologies used in teaching professional disciplines in engineering and natural science educational programs; 5) development of recommendations on organization of training sessions with application of practice-oriented learning technologies and analysis of their effectiveness.

Method

The success of the implementation of the educational program and the achievement by students of the planned learning outcomes depends on many factors. For example, when developing educational programs, first of all, it is necessary to find out the priorities in training for the student, the needs and expectations of key stakeholders, and then to determine the specific goals and learning outcomes, content, teaching/learning methods, teaching and

assessment strategies, types and forms of academic quality control, to develop the necessary educational material and instructions for students, organize the learning process itself (Basavaiah et al., 2021; Karstina, 2022b), integrate various forms of cooperation with organizations and enterprises into the learning process, align the content of professional disciplines with the production tasks and innovations of specific enterprises and industries (Karstina, 2022b).

In accordance with this, in this paper a survey and interviewing of engineering and natural science students and teachers of professional disciplines in universities and colleges, employees of Kazakhstani companies and enterprises were conducted. Within the framework of the conducted surveys the task was to find out what basic skills and competencies should be developed in students during the process of studying at the university/college, to determine the most significant learning outcomes for students and employers, to identify the main shortcomings in skills and competencies of engineering and natural science graduates, to assess the degree of students' satisfaction with the quality of organization and conduct of practical classes and professional practices by universities and colleges, the formation of competencies, knowledge, skills necessary for employment in the specialty, to find out the priorities of teachers in the application of various practice-oriented educational technologies in the learning process.

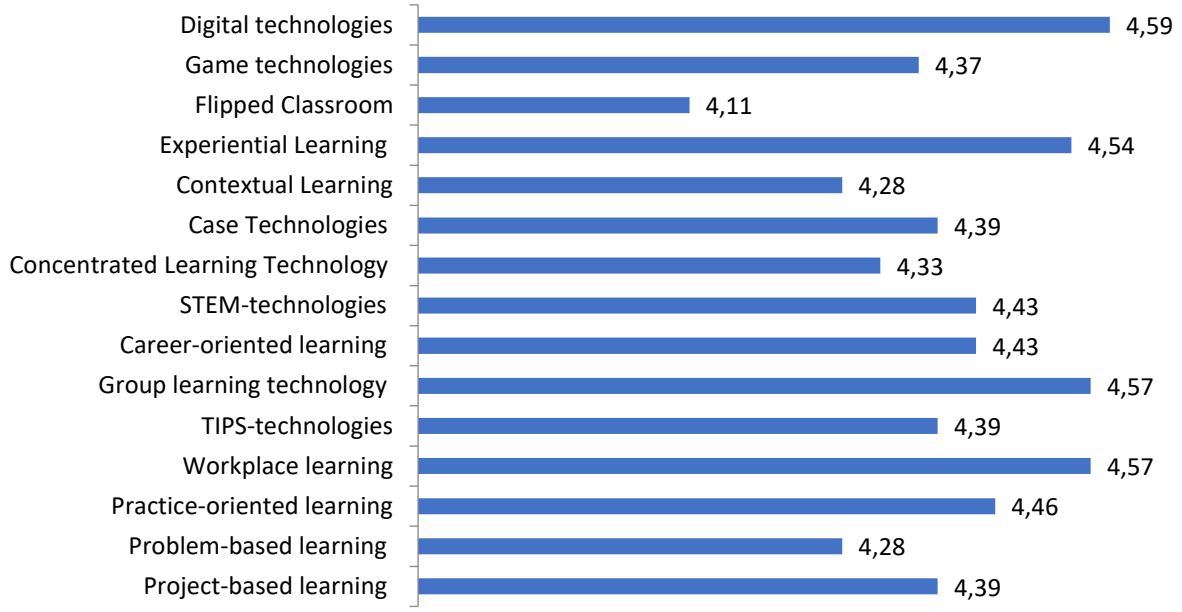
The survey involved 1163 students and 143 teachers from 15 universities and 4 colleges, 109 employees from 46 companies/enterprises located in different regions of Kazakhstan (Astana, Shymkent, Karaganda, Semey, Pavlodar, etc.). Of the surveyed students, 71.9% are enrolled in bachelor's degree programs, 6.7% - in master's degree programs, 21.4% - in technical and vocational education programs in colleges.

Open-ended and closed-ended questions were used to conduct the questionnaire. Response categories in the questionnaires were set by rating scales, allowing respondents to give an assessment in terms of the level of agreement or disagreement, the degree of importance of the analyzed indicator (very important, important, not significant, not important), to apply point evaluation. The proposed options for answering the questionnaires allowed respondents to make single or multiple choices. When analyzing the results of the questionnaire survey, we used the methods of quantitative and qualitative assessment, evaluation of weighted averages and correlation coefficients, ranking of assessed indicators.

To rank the importance of practice-oriented educational technologies used in teaching professional disciplines in engineering and science educational programs, 42 students of professional development courses on the programs "Design of dual educational programs" (10 teachers of universities and colleges with up to five years of teaching experience) and "Modern educational technologies in dual education" (32 teachers of universities and colleges with up to five years of teaching experience) were interviewed. The ranking was based on the students' evaluation of each of the 14 proposed practice-oriented learning technologies on a five-point scale (1 - least important, 5 - most important). According to the ranking results (Figure 1), the most important learning technologies for engineering and science education include: digital technologies, group learning technologies, workplace learning, experience-based learning, STEM-technologies, career-oriented learning, case technologies, TIPS (Theory of Inventive Problem Solving)-technologies, project-based learning, game technologies. Accordingly, the above technologies were considered in this paper in more detail in order to develop recommendations for organizing training sessions with their application.

Figure 1

Assessment of the importance of applying practice-oriented educational technologies for teaching professional disciplines in educational programs of engineering and science profiles



Assessment of students' satisfaction with the competencies, knowledge, skills necessary for employment in the specialty, quality of practical training and professional practice in the university/college was carried out on the basis of comparison of students' survey results in 2021, before the implementation of practice-oriented educational technologies in the educational programs of engineering and science profiles (590 surveyed students), and in 2023, after the implementation (89 surveyed students).

Results and Discussion

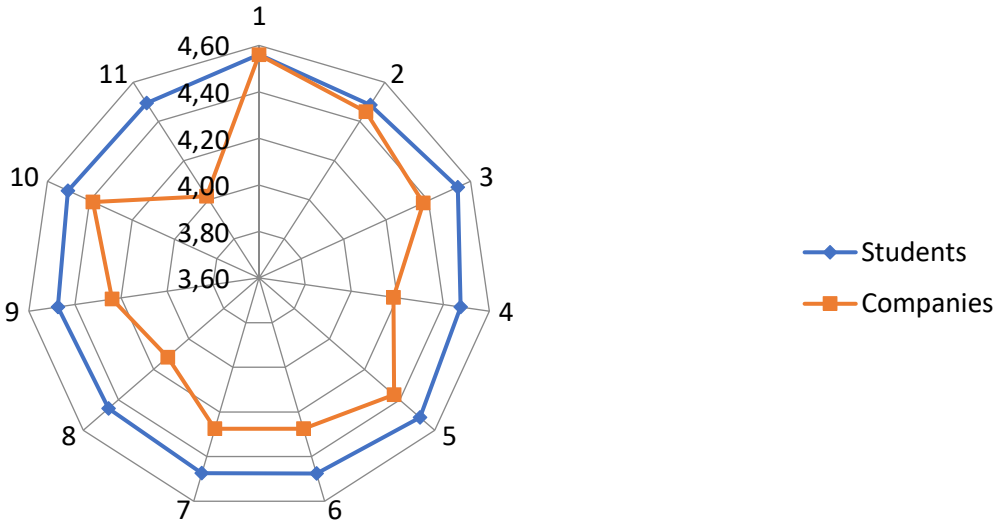
In order to actively involve students in the learning process at both individual and collective levels, it is important to determine the format of training, distribute the time of classes and preparation for classes, and provide access to learning resources, develop learning situations, problem and contextual tasks that require students to make compromise decisions in complex situations, develop various thematic test tasks related to students' independent work and theoretical concepts, define contextualized approaches to teaching and learning (Zaher et al., 2023). At the same time, the teacher needs to choose effective tools to increase students' motivation for learning and responsibility for learning outcomes, feedback tools to guide and control student's mastering of learning material, to define stages and tools for evaluating individual student progress, forms of rewarding students for achieved results and acquired competencies throughout the course (Lin, 2021), to integrate the values of everyday life into the training, to set students up for benevolent business communication and interaction, etc.

When organizing practical training it is important to expand the use of virtual and remote laboratories, technologically advanced means of experimental learning, which will allow students to perform design and research tasks anywhere and at any time, using real equipment or virtual simulators, combining technological attributes and situational learning. To improve the efficiency of students' work when performing practical tasks, various forms of student support should be developed at each stage of work from the preparatory to the final stage, guidelines, instructions, methodological recommendations for performing tasks, setting up and using laboratory equipment and/or software, planning and structuring laboratory activities (Van den Beemt et al., 2023; Karstina, 2024).

In order to increase student satisfaction with the competencies, knowledge, skills required for employment, it is important to find out the priorities in training for the student, needs and expectations of other key stakeholders. For this purpose, according to the results of questionnaire survey of students and employees of companies/enterprises in the work we have calculated average assessments of 11 learning outcomes, which should be achieved by the student during training: 1. Possess the technologies of self-learning, self-development, self-regulation and self-support; 2. Be able to systematize and analyze approaches to study the development of engineering and natural sciences fields; 3. Be able to classify and combine theoretical and practical knowledge; 4. Be able to apply the methods of experiment setting to solve complex problems of engineering, natural sciences, plan and conduct scientific and technological experiments; 5. Demonstrate skills of logical and analytical thinking; 6. Be able to document the results of professional activity; 7. Organize and conduct operation of technological lines, participate in the development and modernization of technological production schemes; 8. Apply innovative methods in professional activity; 9. Assess resources and propose technological/practical solutions; 10. Use modern information and communication technologies; 11. Know the basics of management. The assessment was conducted on a five-point scale (1 being the least important learning outcome, 5 being the most important learning outcome). The results of the evaluation are presented in Figure 2.

Figure 2

Weighted average assessment by trainees and employees of companies/enterprises of the results to be achieved by the student during training



Analyzing Figure 2 it can be noted that weighted average scores of trainees and employees of companies/enterprises of such learning outcomes as 1 - To possess technologies of self-learning, self-development, self-regulation and self-support, 2 - To be able to systematize and analyze approaches to the study of development of engineering and natural sciences, 3 - To be able to classify and combine theoretical and practical knowledge, 5 - To demonstrate skills of logical and analytical thinking, 10 - To use modern information and communication technologies have insignificant differences (from 0 to 0.16 points). Significant difference in the weighted average assessment by trainees and employees of companies/enterprises is observed for learning outcome 11 - To know the basics of management. Based on the analysis of weighted average assessments, it can be noted that employees of companies/enterprises attach greater importance to learning outcomes related to

the development of students' personal, social and technical skills and competencies, and less importance to learning outcomes related to the development of organizational and administrative skills and competencies. At the same time, based on the calculation of the correlation coefficient (***r***=0.67), it can be noted that the relationship between the responses of trainees and employees of companies/enterprises is significant (average correlation).

The paper also analyzes the results of students' assessment of the main skills and competencies to be developed in the process of higher education/college education and the assessment by the employees of companies/enterprises of the main deficiencies in skills and competencies of engineering and natural science graduates of higher education institutions/colleges. For assessment, respondents were offered a list of 20 basic skills and competencies to be possessed by graduates of engineering and natural science specialties of universities/colleges: 1) communication skills, 2) practical skills, 3) managerial and organizational skills, 4) skills of working with professional and technical documentation, 5) problem solving and analysis skills, 6) skills of operating modern technological equipment, 7) language competencies, 8) digital and IT competencies, 9) career development skills, 10) skills in applying innovative technologies, innovative methods, 11) skills in solving complex problems, situational problems, 12) creativity, 13) ability to work with scientific and professional databases, 14) system approach in solving professional problems, 15) skills of self-learning and self-development, 16) knowledge of modern theoretical, methodological and technological achievements of science and practice, 17) ability to apply modern methods of data processing and interpretation, including the use of computer technologies, 18) ability to critically analyze, evaluate and synthesize new and complex ideas, 19) skills of teamwork, successful interaction with people, 20) skills of project work. Trainees rated the importance of skills and competencies on a five-point scale (1 being least important, 5 being most important). Employees of companies and enterprises also used a five-point scale to assess the main deficiencies in skills and competencies of engineering and natural science graduates of universities/colleges (1 - the least deficiency, 5 - the greatest deficiency). All assessed skills and competencies acquired in the course of study were recognized as important by 56.18% to 64.6% of surveyed students. At the same time, the smallest share of students recognizes the importance of a systematic approach in solving professional problems (56.18%), the largest share of students recognizes the importance of practical skills (64.6% of respondents). The percentage of respondents from among the employees of companies/enterprises who rated as the main shortcoming in the skills and competencies of graduates in terms of the proposed list ranged from 20.18% to 46.79% (20.18% of surveyed respondents believe that the lack of career development skills is the most important shortcoming, 46.79% of surveyed respondents believe that the most important shortcoming of graduates is the lack of self-learning and self-development skills). In addition, lack of practical skills (noted by 41.28% of respondents), lack of problem-solving and analytical skills (noted by 34.86%) were among the most important shortcomings of graduates as assessed by company/enterprise employees. All other shortcomings were noted as the most important by a smaller proportion of respondents. The correlation coefficient (***r***) between the evaluation of trainees and employees of companies/enterprises amounted to 0.615, which corresponds to a significant relationship (average correlation).

To overcome the identified deficiencies in skills and competencies of engineering and natural science graduates of universities/colleges, practice-oriented learning technologies play an important role. Let us consider some peculiarities of application of practice-oriented educational technologies highlighted by the surveyed teachers of professional disciplines as the most important in training specialists of engineering and natural sciences. In the context of engineering and science education, digital technologies, educational games and simulations are increasingly used to simulate complex physical or technological processes, solve situational

problems, allowing to imitate real-world scenarios, better understand conceptual differences, to apply various built-in tools for searching the necessary information, to create a dynamic, learner-centered positive environment, to stimulate collaborative work, to create a variety of content and complexity of tasks, the solution of which is aimed at the development of certain skills and competencies (Drakatos et al., 2023). Digital technologies facilitate and improve assessment procedures, enable students to use various mobile devices and ICT applications, artificial intelligence, STEM and robotics.

When using project-based learning, it is important to ensure that students are involved in solving meaningful problems that will be of interest to students and provide opportunities for experiential learning. When organizing students' project work, the following format can be used: before carrying out a project, students should obtain the necessary fundamental and professional knowledge, have an idea of practical approaches to problem solving. For this purpose, lecture classes are held before the start of project implementation. During the seminars, the teacher should present students with examples of problem solving, organize the solution of various research tasks related to the subject of the projects, discuss with students the goals and objectives of the projects being carried out from different points of view, which will contribute to the expansion of students' horizons, depth of knowledge and openness of project work materials (Marhadi et al., 2023), explain the assessment tools. During the mentoring sessions, the course instructor in each project group should consult on technical aspects, time management and ways of interaction within the group, discuss with students the results obtained, evaluate students' progress, answer their questions, encourage students to be creative, critically analyze (Jia et al., 2023), apply interdisciplinary knowledge, iterative cycles that can help students learn from their own mistakes and make progress. For project work, students are usually divided into balanced groups based on predetermined criteria. In the course of project work, each group prepares interim reports in which students describe the tasks performed, the methods used to solve them, and the main results of the project work. The requirements for the reports are defined by the teacher in the relevant recommendations before the start of work on the project. In the final presentation students should present the results of the project, demonstrate the skills and competencies acquired during the project (Anwar et al., 2022; Karstina,2023), the ability to apply knowledge and skills in real life. When assessing students' work on the project, it is recommended to apply various tools of level assessment, which will allow to evaluate the content of the project and the process of project implementation, the results of the work of each group member, his individual contribution to the fulfillment of the project task, to ensure compliance with the principles of objectivity, independence, continuity, flexibility, openness in assessment. At the same time, a set of tools, methods, criteria, indicators and assessment plan should be developed in accordance with the type of project, learning objectives and evidence necessary to confirm the achievement of student learning outcomes (Karstina,2024).

Work-based learning should be applied to enable students to accumulate subjective experience in different contexts, obtain objective results, utilize the advice and opinions of industry experts, acquire and master new skills, which generally improves the quality of their learning. When organizing work-based learning, the learning environment and job requirements should be carefully designed to allow the student to relate theory to practice, workplace experience to theoretical knowledge, and ensure students' adaptation to work situations (Gope & Gope, 2022). For example, when approving the technology of on-the-job training in this work, students were tasked to develop a general structural diagram and circuit diagram of the control and access control device. As a result of solving the problem, students had to create a prototype of a reader (card reader) based on NFC (Near Field Communication) technology. The solution of the task involves the fulfillment of several stages: 1) creation of the structural scheme of the developed device, including several blocks: power supply circuit

block, display switching circuit block, USB interface switching circuit block, external real time source (RTC) block, external memory (EEPROM) block, direct NFC reader switching block; 2) development of independent circuits for each individual block, which were then combined into a general electrical circuit of the device; 3) preparation of a library of components and their arrangement on the printed circuit board, tracing of electrical connections between components; 4) connection of the board to the computer, using utilities for working with STM32 microcontrollers; 5) development of the program part of the device control in the ***C*** programming language. When performing the tasks, students had to pay special attention to the sequence of mounting and soldering of electrical assemblies, identify problems that can affect the start-up of microcontrollers and eliminate them, apply knowledge of the basics of architecture and structure of the microcontroller used, skills of software initialization of microcontroller parameters.

Contextual learning encourages students to make connections between their existing knowledge and its application in everyday life, to see similarities and differences, to systematize ideas. New information is presented to students "in context", i.e. from the position of how theoretical knowledge is applied outside the classroom (Wulandari, 2023; Sue et al., 2022).

To solve situational tasks students should give a brief description of the sequence of actions, analyze examples of possible non-standard situations in solving the problem. At practical classes situational cases can be used, aimed at finding out and analyzing the errors made by the user of a particular application, selection and justification of methods to prevent user errors, analysis of the relevance of the problem, preparation of proposals for the application of the method of solving the problem in the working conditions of a real company/enterprise, preparation of proposals to prevent problem situations and failures in the operation of equipment. Thus, for example, the classes with the use of digital technologies in combination with game and case technologies in the discipline "Fundamentals of radio technology and telecommunications", conducted within the framework of this study, allowed to successfully develop students' skills in the use of modern information technologies, applied software in solving problems oriented to future professional activity, skills of working with network equipment, to form students' skills of teamwork and work for the common result, to develop interest in understanding the work of wireless communication lines and devices, to establish interdisciplinary links, to familiarize with the main functional responsibilities. By performing case assignments students also had to understand the essence and importance of information in the development of modern society, to realize the dangers and threats arising in this process, to learn to comply with the basic requirements of information security, to apply the basic methods, ways and means of obtaining, storing, processing information. The following format was used during the lessons: random division of students into groups of 3-4 people, distribution of roles performed by members of each group. For example, when simulating the work of the Department of Information and Communication Technologies of the Radio-Television Transmission Center, students performed such roles as engineer, chief specialist, specialist, manager. Case assignments for each group included selection of new equipment or modernization of existing equipment for the internal device of the computer network. The case studies used by students contained a task and order form, technical documentation of the devices, details of the enterprise and the customer, job descriptions of an engineer, chief specialist, specialist and manager, and variants of test tasks.

The work performed on the case study included three phases:

Stage 1 - introductory discussion on discussing tasks and case materials, job descriptions in accordance with the role performed in the group. The teacher, playing the role of a facillitator, helps students to assess the situation, leads students to discuss various options for solving the task;

Stage 2 - practical work of students to fulfill the case assignment and search for suitable options for the customer;

Stage 3 - general discussion: presentation of work results and prepared packages of documents, discussion and evaluation of problem solving options. At the end of the lesson, the teacher organizes a discussion of functional responsibilities in accordance with the assigned roles, types of activities and skills and competencies required for each profession.

Figure 3

Results of evaluation by students of the competencies, knowledge, skills required for employment in the specialty formed in the process of training

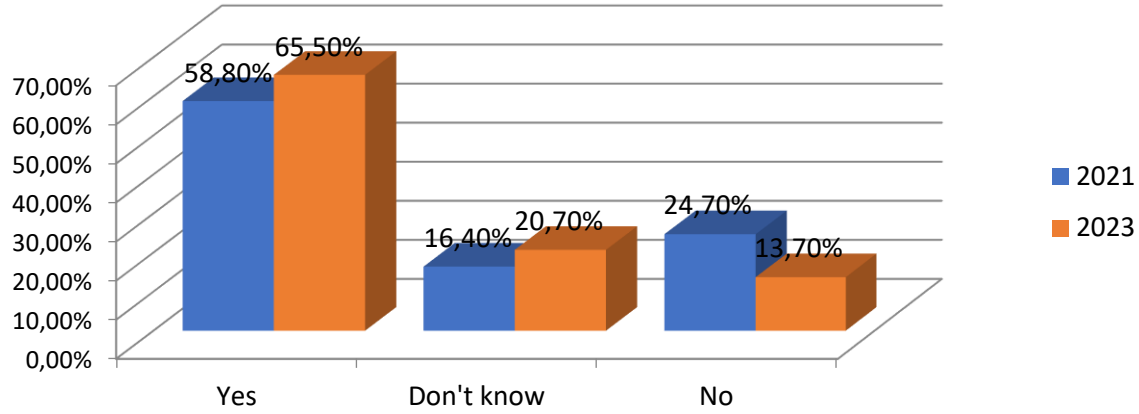
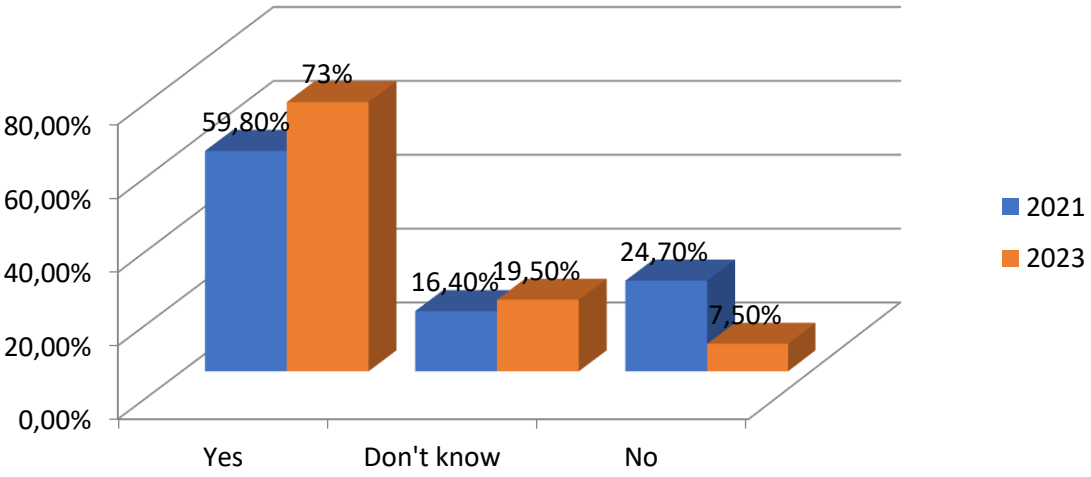


Figure 4

Results of evaluation of students' satisfaction with the quality of practical classes and professional practices in the university/college



The described approaches to the application of practice-oriented educational technologies in the training of engineering and natural science profiles allowed combining theoretical classes with problem solving, project or research work, which contributed to the development of students' critical and evaluative thinking, analytical and innovative abilities, practical skills and professional competencies, balanced and diverse approaches to identifying and solving a real problem, both independently and in a team, the ability to communicate and cooperate at the scientific and professional levels, independence and initiative. The results of the questionnaire survey conducted with students of engineering and science programs before

the implementation of practice-oriented learning technologies (2021) and after the implementation (2023) confirm the effectiveness of the application of practice-oriented learning technologies (Figures 3, 4). The purpose of the survey was to assess the students' satisfaction with the competencies, knowledge, skills required for employment in the specialty, the quality of practical training and professional practice at the university/college. As can be seen from Figures 3, 4, the degree of students' satisfaction with the competencies, knowledge, skills, necessary for employment in the specialty, formed in the process of training increased by 6.7%, the degree of students' satisfaction with the quality of practical training and professional practice in the university/college increased by 13.2%.

Conclusion

The paper ranks practice-oriented educational technologies by the degree of importance and presents recommendations for organizing training sessions with the use of practice-oriented educational technologies.

The analysis of the main deficiencies in skills and competencies of engineering and science graduates carried out in the paper allowed to establish that employees of companies/enterprises attach more importance to learning outcomes related to the development of students' personal, social and technical skills and competencies, and less importance to learning outcomes related to the development of organizational and administrative skills and competencies.

Based on the obtained values of correlation coefficients between the responses of students and employees of companies/enterprises in assessing the importance of learning outcomes, acquired skills and competencies and the main shortcomings in the training of specialists of engineering and science profiles, it was found that the relationship between the responses of students and employees of companies/enterprises is significant.

The paper shows that practice-oriented educational technologies are an effective tool to increase students' motivation for learning and responsibility for learning outcomes. The application of practice-oriented educational technologies in training specialists of engineering and natural science profiles allowed to increase students' satisfaction with the competencies, knowledge, skills required for employment in the specialty by 6.7%, the degree of students' satisfaction with the quality of practical classes and professional practices in the university/college - by 13.2%.

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DEVELOPING SOFT SKILLS THROUGH CAREER COUNSELING FOR GRADUATE STUDENTS

Abstract: In this article we consider the problem of soft skills development through career counseling of graduate students. In the course of literature analysis we have established that "soft skills" allow any person, especially students, to realize themselves in professional activity, as well as to increase its efficiency and ensure the achievement of career growth. It was determined that the application of career counseling is especially important for students, taking into account its modern peculiarities in relation to the fact that students of the last courses have different needs of their development as future specialists. The results of the questionnaire survey showed the importance for students to develop indicators of soft skills, including through career counseling. The developed Program of soft skills development through career counseling offered for training of final year students allowed to increase the indicators of the main soft skills of students: communication; teamwork; leadership; presentation skills; time management; problem solving and creativity.

Keywords: soft skills, career counseling, career development, communication, teamwork, leadership, presentation skills, time management, problem solving, creativity.

Introduction. The relevance of the research topic lies in the presence of problems that can be solved with the help of career counseling. The first problem should be recognized as high requirements of the modern labor market to university graduates. Since the modern employer expects specialists who have not only deep knowledge in their professional field, but also the presence of such developed soft skills as soft communication, critical thinking skills, soft skills in teamwork, creativity and many others. Also, many graduate students find it difficult to find a job after graduation. Many do not even know how to find a suitable position in their profession, how to make a resume, how to prepare for an interview, how to define their career goals, and so on.

Career counseling is quite often used to develop soft skills, which can help students in their final years to realize the importance and necessity of developing such skills. Career counseling can then provide students with the tools to further improve the most important soft skills for a career.

It is believed that career counseling is one of the methods that can help students develop key indicators of soft skills and become more confident in themselves and their abilities. Also, career counseling can help students navigate the world of work, increase their competitiveness in the labor market, and facilitate the employment process. In addition, career counseling provides an opportunity to develop effective communication skills, easily solve existing problems, make good decisions and adapt to changing conditions, which is considered useful in the professional field and in ordinary life. At the same time, the development of soft skills contributes to the personal growth of students, and it seems important especially in the last years of study, because then it may be too late to develop them, as it will be necessary to work hard.

The purpose of the study is to examine the importance of career counseling in developing soft skills in graduate students and to evaluate the effectiveness of the proposed program.

Objectives of the study: to conduct a literature review on the problem of soft skills development and career counseling for students; to determine the importance of career counseling for graduate students; to develop a career counseling program aimed at developing soft skills in graduate students; to evaluate the effectiveness of the proposed program.

Research methods and organization

The research methods were defined as: literature analysis; survey; methods of generalization, grouping, logical and mathematical analysis and system description.

The study was conducted in two stages:

1. Theoretical - conducting a literary analysis;

2. Practical: conducting an experiment, in which a program for the development of soft skills by means of career counseling is developed, and the effectiveness of soft skills development is evaluated.

To study the relationship between the development of soft skills and career counseling among graduate students, an anonymous questionnaire survey was conducted. The survey was conducted on the basis of a self-developed questionnaire using GoogleForm program in which the questions formulated in advance were uploaded. The survey was attended by 62 students of Toraigyrov University in Pavlodar, studying at technical specialties. The questionnaire included questions to establish knowledge of soft skills and to find out the level of perception of the importance of developing these skills for career advancement. The most important question in this questionnaire is the one that includes self-assessment of the level of development of soft skills within the proposed competencies. A five-point scale was proposed for self-assessment. The obtained results were processed using the methods of generalization, grouping, logical and mathematical analysis and system description.

A literature review of the research topic.

There is a large number of definitions of the term “soft skills.” Thus, the Oxford Dictionary defines them as personal qualities of a person that enable him/her to communicate effectively with others (Oxford Dictionary, n.d.). While Batsunov and Derecha emphasize that these are personal qualities and unified skills that allow increasing the efficiency of activity and communication with other people, through the ability to manage development, time, and persuade another (Batsunov & Derecha, n.d.). Abashkina (2015) proposes to consider soft skills as human qualities, without which even a person who considers himself the best professional cannot achieve a good result. Golulman, Bortsich, and McKee (2009) showed by examples from practice that the level of development of soft skills determines the effectiveness of a person in the profession and his career. According to the author, it is the level of development of soft skills that distinguish a successful professional worker from an unsuccessful one. Gaiduchenko and Marushev (n.d.) connect soft skills as allowing a person to find a common language with other people, establish connections, and maintain them, which is important in life and in industrial activity.

Career counseling of final-year students is usually understood as a process of joint work of a professional counselor with a student, which is aimed at establishing values regarding the activity in terms of determining the professional interest, degree of education, level of available skills, and experience (Selivanova, 2014). Counseling includes the analysis of resources and opportunities, long-term and immediate goals, to ensure the student's self-realization in professional activity both in the labor market and in a particular enterprise or organization. The main purpose of career counseling is to assist young people in the process of vocational education and self-determination in a specialty or profession. This is explained by the fact that in higher education a secondary stage of self-determination takes place, which gives the

opportunity to clarify the goals regarding the profession and professional growth, and necessarily indicate the main motives for the formation of their career (Shamardina & Kozhevnikova, 2019; Alaeddin & Litvina, 2021).

The main tasks that a career consultant has to solve for graduate students and for any other client include informing the client about the types of career growth and specific opportunities, establishing levels of professional skills that ensure the development of competence and job growth opportunities, mastering the factors and basic conditions that contribute to career development in a particular profession or position, and establishing intra-organizational and professional indicators and personal interests. Additionally, a career consultant must identify existing barriers to career development and ways to overcome them, identify indicators of professional growth that are directly related to a future career, and establish personal and professional potential in relation to a career (motivation, style of activity, achievements, level of claims, value orientations, creative potential, innovative orientation, features of interaction with people and with management, etc.). They must also help draw up a career development program (or a career path) of service or professional growth (Sargsyan, 2021).

A career counseling program is usually developed in three stages (Alaeddin & Litvina, 2021):

1. At the first stage, a person's attitude to career is established: the concept of professional development, motivation and professional orientation, professional goals, values, and plans are considered.
2. At the second stage, the person is analyzed by the following indicators: current labor performance, professional preparedness, professional qualification, and compliance with the set goals for career development.
3. The third stage involves planning the individual's career and discussing the selected career strategy.

Career counseling for future professionals (or future university graduates) differs from the counseling of other groups of employees and has its own features, which in turn depend, according to Shirokova (2019), on the following: professional self-determination needed by students in the last years as future professionals, conditions based on self-development, self-realization, independent implementation, and the level of career guidance organized in the university.

The peculiarities of special career counseling that should be taken into account by graduate students as future professionals in the process of learning how to create a successful career are highlighted. Career goals are not yet fully understood and realized by the student, so they cannot express the initial reason or their request, as they do not always correctly present their future professional activity. This prevents them from independently determining the goals of career development and developing certain career goals. They often resist advice coming from their elders. For the most effective presentation, it is important to know the personality-typological, cognitive, emotional-volitional, and other abilities of a young person. Career counseling used by modern students is usually very theoretical and virtual and therefore not always effective. However, career counseling in the form of a developed program helps to motivate students to realize their career goals (Ivanova & Dubinenkova, 2012; Brown & Lent, 2020).

The results of the study and discussion

In the course of literature analysis, it was established that in all definitions it seems to be common that “soft skills” help a person to be realized in the profession. On this basis, it is possible to consider soft skills through the system of competencies, which include any personal skills that allow increasing the efficiency of professional activity and career growth of a

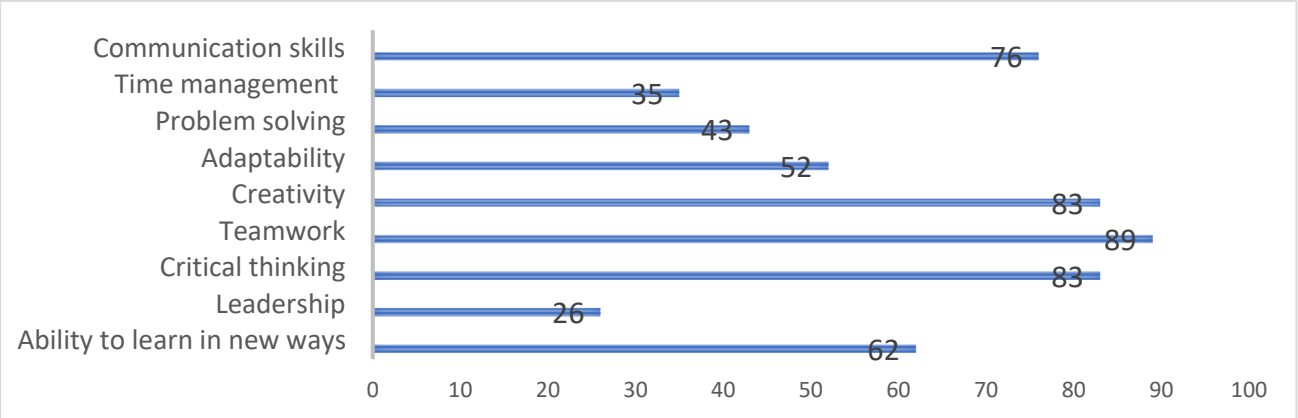
specialist. Almost all experts and researchers emphasize that in the modern world it is necessary and important to use career counseling for students, especially in the last courses. At the same time, it is important to take into account the peculiarities of modern career counseling in relation to the last year students as future specialists. Taking into account these peculiarities, it is suggested to conduct counseling to prepare students for career development, ensuring the career development is successful.

Results of the questionnaire survey

The results of answering the question of whether you are familiar with the term and characteristics of soft skills are as follows: the majority of graduate students (61%) have an idea about soft skills, but some of them (36%) need additional explanation (counseling) about this term. While only 24% are familiar with the concept of career counseling, the rest are not familiar with the term. The results of answering the question of which soft skills help to achieve a successful career are labeled according to Figure 1.

Figure 1

Results of the importance of soft skills that help to achieve a successful career, in %



The analysis of the results showed that graduate students believe that the most important soft skills for achieving a successful career are critical thinking (83%), teamwork (89%), creativity (83%), communication skills (76%) and the ability to learn in new ways (62%). This allows us to assume that students recognize, in relation to careers, the importance of developing their mental abilities, the ability to work with others and adapt to new situations. However, skills such as leadership, adaptability, problem solving and time management were rated significantly lower by them, which are considered particularly important in practice. All this may suggest that students have not yet encountered the major issues of human development in professional practice and have not yet realized their importance.

The results of answers to the question showing the general level of self-assessment in the scope of proposed soft skills are shown in Table 1

Table 1

Results of self-assessment of the importance of soft skills for graduate students, in %

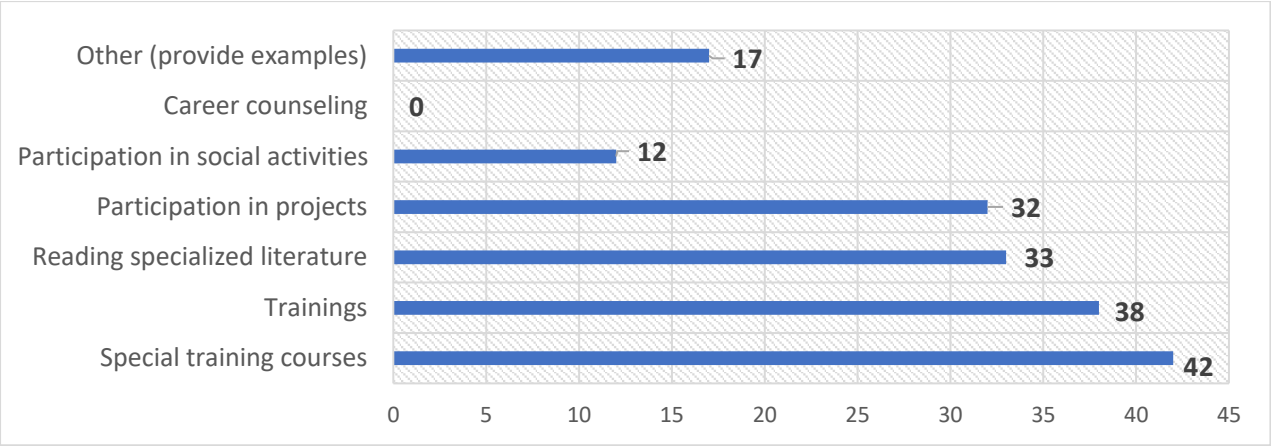
Score points	Ability to learn new things	Critical thinking	Teamwork	Creativity	Adaptability	Communication skills
5 points	0	16	0	7	0	2
4 points	0	14	9	28	7	24
3 points	14	36	24	29	26	40
2 points	22	26	38	36	41	31
1 point	64	9	29	0	26	3

The highest self-assessments are given to the following soft skills: creative thinking and communication skills, as they received the highest score, albeit in a small number: 16 and 2%. It should also be noted that no one highly evaluated the importance of such skills as teamwork and adaptability (0% each). The importance of creativity (28%), communication skills (24%), critical thinking (24%), teamwork (9%) and adaptability (7%) are rated 4 points or good. On average, all of the identified soft skills are considered important. Insignificantly important are mostly identified by many students, and first of all they are Ability to learn new things (64%), Teamwork (28%) and Adaptability (26%).

Figure 2 shows the results of answers to the question what methods and means you or the university apply to improve the development of soft skills.

Figure 2

Structure of answers to the question what methods and means you or the university use to improve the development of soft skills, in %.



The analysis of the obtained data allows us to conclude that graduate students actively use various methods and means to improve the development of soft skills. At the same time, special training courses (they account for 42%) and trainings (38%) are more used. It should also be noted that many students read special literature (33%) and participate in projects (32%). Participation in social activities is not a common method of developing soft skills (only 12%).

At the same time it should be noted that career counseling is not used by graduate students, perhaps they are not available to them or do not know enough about the importance of career counseling. It is also worth mentioning that 17% of students mentioned other methods, even if they did not label them, the main thing that graduates are willing to use to improve the development of soft skills.

The results of answers to the question whether it is necessary to include in the educational or additional courses of higher education institutions the training of soft skills through career counseling: Yes - 95, 2%; No - 4,8%;

The results show that the vast majority of graduate students (95.2%) believe that it is necessary to include career counseling in academic or supplemental higher education courses to teach soft skills. While only 4.8% were against this idea.

A program to develop soft skills through career counseling for graduate student learning:

1. Introduction.
2. Definition of soft skills.
3. Assessment (diagnosis) of the current level of soft skills development
4. Career counseling measures of soft skills development through measures of specific soft skills needed to achieve career advancement: Communication Skills; Time Management; Problem Solving and Critical Thinking; Teamwork; Leadership and others.
5. Feedback and evaluation of progress.
6. Benchmark assessment of soft skills development.
7. Re-training: if required results are not obtained.

Career counseling interventions aimed at developing soft skills in graduate students may include the following activities we have outlined in Table 2.

Table 2

Career counseling interventions to develop soft skills in graduate students

Skills	Activities	Career counselor activities
Communication skills	Communication skills training	acts as a training facilitator, leads exercises and discussions, helps participants learn new communication techniques and learn to express themselves effectively
Time management	Master class on time management (Time Management)	invites a time-management expert
Problem solving	Problem-solving roundtable: Career development challenges: how to overcome obstacles and achieve success?	organizes a meeting where students can share their problems and find solutions together. Maintains an atmosphere of openness and cooperation, helping participants to develop critical thinking and the ability to find compromises.
Teamwork	Business game on teamwork	Creates an environment for students to practice teamwork, solve complex problems, and learn to collaborate.
Leadership	Leadership Lecture: "Leadership and emotional intelligence: the key to career success. Team Leadership: How to Achieve Success Together"	An experienced leader is invited to speak about their principles and approaches to leadership. Participants can ask questions and receive valuable advice on leadership development.
Presentation skills	Presentation Skills Training: "How to persuade an audience or mastery of public speaking"	provide students with individualized support and feedback.

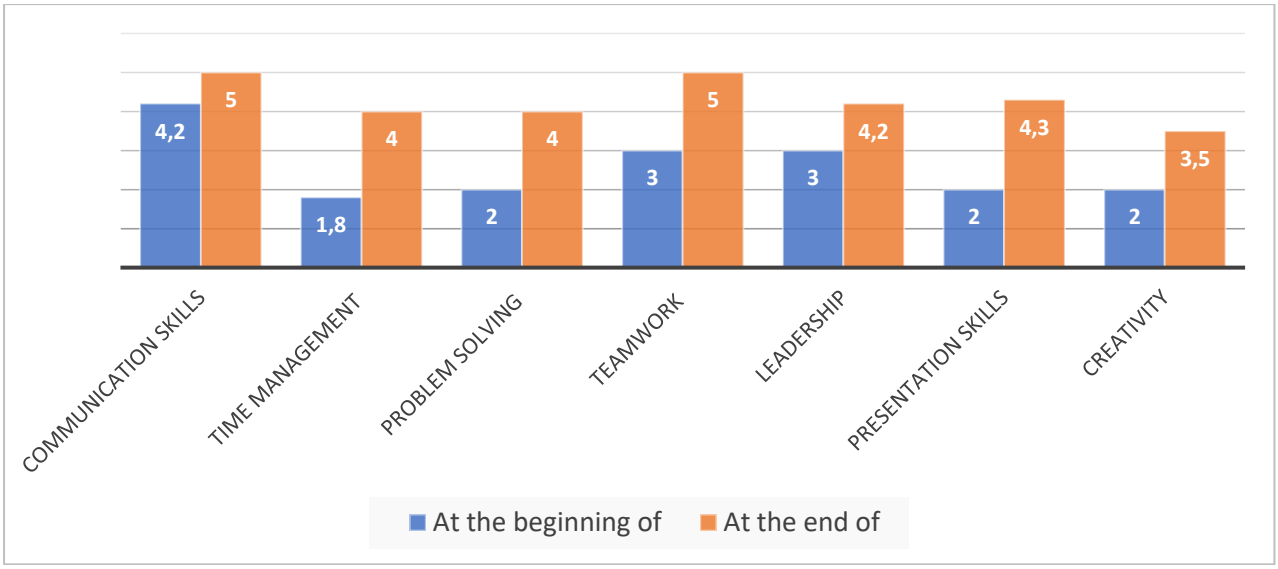
	"Stress Management and Confidence in Speaking	
Creativity	Organization of competitions: "How to offer a unique solution to create an innovative product or service" "How to attract attention and be remembered by creating an advertising campaign"	provide students with individualized support and feedback.

Thus, it was found that all activities within the Soft Skills Development through Career Counseling Program are aimed at helping graduate students develop the soft skills necessary for a successful career. In doing so, the career counselor plays a key role in organizing and conducting these activities, as well as providing support and assistance to the participants as feedback is established between him/her and the students.

Results of the assessment of the benchmark level of soft skills development in comparison with the initial level (in points).

Figure 3

Comparative assessment results in points



The results of comparative analysis showed that after the implementation of career counseling measures, graduate students improved in the development of all soft skills. The highest rates were noted in communication skills, teamwork, leadership, presentation skills, time management, and problem solving, while the lowest rate was noted in creativity. These findings are indirectly supported by other studies that have focused on similar topics. For example, Sarkisyan (2021) considers career counseling as one of the methods of building a successful career in college students. Sarkisyan emphasizes the importance of psychological support for students and the need to account for the peculiarities of modern career counseling for students as future professionals who are to be employed. Therefore, they need soft skills such as presentation skills, time management, problem solving, and teamwork.

The importance of developing soft skills through career counseling is also confirmed by Ivanova and Dubinenkova (2012), who conducted a study on the development of soft skills through career counseling. They focused on the state and local government system and

highlighted the effectiveness of training and development of soft skills in enhancing career outcomes.

Conclusions

Literature analysis on the problem of soft skills development and career counseling for graduate students found that students need such soft skills as communication skills, teamwork, leadership skills, creativity, time management and some others, as they are the ones that allow them to adapt to changing conditions and interact effectively with others, which is important for achieving a successful career. Career counseling (in its various methods and techniques) is recognized as one of the effective tools to help graduate students develop soft skills, as it makes students analyze their strengths and weaknesses, helps to identify goals and strategies for upcoming career development. According to other researchers soft skills development and career counseling are important aspects of students' education. As they help students to prepare for their future career, increase their competitiveness in the labor market and achieve success in professional activities.

Through a questionnaire survey, we established the importance of career counseling for graduate students. Based on this, we developed a career counseling program aimed at developing soft skills in graduate students, which includes specific measures to develop such soft skills as communication, time management, problem solving, teamwork, leadership, presentation skills and creativity. The evaluation of the effectiveness of the proposed program showed that all the career counseling measures we conducted can be recognized as effective, as they allowed to develop the most important soft skills in graduate students.

Conflict of Interest Statement

The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

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SUPPORT AND ASSISTANCE IN MIDDLE SCHOOL STUDENTS' EARLY PROFESSIONAL SELF-DETERMINATION THROUGH "CAREER ACADEMY"

Abstract. This research article delves into the multifaceted landscape of supporting and guiding middle school students in their early professional self-determination. It begins with an introduction highlighting the significance of this developmental phase and outlines various initiatives aimed at providing comprehensive support to middle school students as they navigate career exploration and decision-making. The literature review section synthesizes diverse perspectives on professional self-determination, offering insights from scholars such as Super, Bozhovich, and Kustov. The study identifies subjective and objective factors influencing career choices and discusses their impact on middle school students' professional self-determination. Furthermore, it explores the results of a diagnostic survey conducted among middle school students, revealing prevalent inclinations towards specific types of professions. The research findings underscore the need for targeted support to enhance middle school students' readiness for career decision-making. Lastly, the article concludes by emphasizing the importance of implementing psychological and pedagogical support systems within educational institutions to facilitate informed career choices among high school middle school students.

Keywords: support, assistance, early professional self-determination, middle school students, middle school, educational counseling, career counseling

Introduction

The process of early professional self-determination plays a pivotal role in shaping their trajectories, yet it can be overwhelming and fraught with uncertainties. In the journey towards adulthood, middle school students often find themselves at a crossroads, faced with the daunting task of contemplating their future career paths. Recognizing the significance of this developmental phase, educators and stakeholders have increasingly focused on providing support and assistance to middle school students as they navigate the complexities of career exploration and decision-making.

At the heart of early professional self-determination lies the need for middle school students to explore their interests, passions, strengths, and aspirations. However, many middle school students grapple with limited exposure to diverse career options, a lack of clarity about their own interests, and uncertainties about the pathways to their desired professions. In response, educators, counselors, and community partners have implemented a range of initiatives aimed at providing guidance, resources, and opportunities for middle school students to explore their interests and gain valuable insights into potential career paths.

Central to these efforts are career readiness programs, mentorship initiatives, experiential learning opportunities, and career exploration activities embedded within the high school curriculum. These interventions not only expose middle school students to various career fields but also equip them with essential skills, such as critical thinking, communication, and problem-solving, that are indispensable for success in the workplace.

Additionally, educators have adopted individualized strategies to facilitate professional self-determination among middle school students, taking into account their diverse backgrounds and needs. To help middle school students find their ideal path, schools provide individualized counseling, career assessments and targeted interventions to meet their individual needs.

High and middle school students experience a transition and crisis point when they have to make choices related to their careers. Transitions and critical points are generally associated with the selection of universities, study programs, training to be followed and etc (Veronica et al, 2020.)

Through this article, we aim to explore the multifaceted landscape of supporting and assisting middle school students in their early professional self-determination. By highlighting successful strategies, innovative initiatives, and collaborative partnerships, we seek to inspire educators, policymakers, and stakeholders to invest in comprehensive support systems that nurture the aspirations and potential of every student. Ultimately, by fostering a culture of empowerment and self-discovery, we can pave the way for a future generation of confident, fulfilled, and successful professionals.

Research strategy and methods

In order to effectively address and guide the early professional self-determination process among middle school students, the establishment of the "Career Academy" within the Foundation Faculty of "Toraigyrov University" was initiated. This initiative served as the platform for conducting an experimental investigation into the psychological and pedagogical support mechanisms for middle school students' professional self-determination.

The diagnostic techniques used to investigate the issue of early professional self-determination serve multiple purposes:

- Helping students in middle school to make informed choices about their educational path by examining the reasons behind such decisions;
- Preserving and monitoring the key indicators of career readiness for both individual students and class;
- The effectiveness of initiatives aimed at encouraging professional self-determination is being evaluated.

Most diagnostic tasks are presented as self-assessment questions to enable middle school students to assess themselves, analyze obtained results, and draw conclusions on their own.

To evaluate the degree to which they have formed professional self-determination and identify determinants of informed career choices, a survey was conducted among 27 middle school students from Pavlodar city schools to determine their level of participation in sessions at the "Career Academy." The results emphasized the importance of providing specific assistance to middle school students in comprehending and fostering their professional self-determination. Psychological and pedagogical interventions should not solely focus on career decision-making, but also aim to promote self-awareness and self-worth. In order to achieve this, it is recommended that middle school students:

- Evaluate individual psychological traits, capabilities and tendencies;
- Seek advice from adults as to how expressed are the inclinations and skills of those who want them or have an interest in certain careers;
- Develop knowledge regarding future professions;
- To consider both objective and subjective factors when choosing a profession, it is important to take into account these factors.

Summary of Literature Review

Theoretical and practical dimensions of middle school students' early professional self-determination have garnered attention among scholars. Analysis of existing literature reveals diverse perspectives on this subject. Professional self-determination is approached from a personality angle by some scholars, who use it as a means of measuring and evaluating one's own performance in specific professions where individual personality traits relevant to the profession are essential. While some view personality-activity relationships, others perceive professional self–determination through developmental stages as an active process.

In addition, scholars such as Zentsiper, Safin, and Super view professional choice as a complex process with predictable patterns and long-lasting effects. The period of vocational decision-making, as defined by Super (n.g.), encompasses adolescence and young adulthood, during which individuals evaluate their professional abilities and goals.

Promptu: Bozhovich (1996) considers the beginning of employment as a moment in professional self-determination. Bozhovich notes that choosing a career becomes an increasingly important task for middle school students, who are then forced to shape their motivational patterns as they adapt to changing social conditions.

Kustov (2002) suggests viewing professional self-determination not as a momentary act, but as "a process stretched over time and space, which, in the first approximation, consists of the following stages: professional orientation towards a wide range of employment and professions; formation of professional intentions; career choice; consolidation of career choice; active and conscious mastery of the profession; productive creative work in the chosen profession; striving to expand one's professional range through additional education; aiming for professional mastery; career advancement; readiness to acquire a related profession; active acquisition of a new profession; adaptation to a new profession in the event of a forced change". According to his opinion, professional self-determination is one of the "personal qualities of a person, subject to formation and manifested in a complex and dynamically changing world of professions, accompanied by a critical and constructive attitude towards oneself as a subject of certain activities, maintaining one's physical and intellectual strength, interests and inclinations, value orientations and attitudes at the level of requirements of the dynamically changing labor market".

Professional self-determination, as described by Smirnova (2013), involves actively identifying and affirming one's internal perspective about a future profession, which is expressed through a particular attitude towards life, worldview, and consciousness of oneself and the world.

For our study (considering the age of the studied group, 13-14 years old), the most comprehensive definition of the basic concept of this research is presented by Zeer (2008): "professional self-determination is a conscious choice of profession taking into account one's characteristics and capabilities, the requirements of professional activity, and socio-economic conditions."

We will examine each characteristic associated with professional self-determination, highlighting the most crucial ones for our research:

- The process of a person's professional self-determination is ongoing throughout their entire career;

- Professional self-determination is based on a conscious decision to pursue a profession that aligns with the strengths, opportunities, and conditions of the individual engaged in the activity as well as the socio-economic environment within the country;

- Professional self-rule is a dynamic process that changes in response to events that occur with the individual, such as secondary education completion, vocational training completion (she leaves school), residence change, employment availability, professional growth, termination from work, etc.

The key to a conscious career choice, as stated by Khilko (n.g.), is:

- This is because "the qualities of a person and the character of business which will determine the success of this activity are already formed, and will remain the same;"

- Coordinated training of necessary abilities for the task. It is thought that each person can be equipped with the necessary traits;

- Commitment to the principle of unifying consciousness and activity, which suggests orienting oneself towards developing an individual style or approach.

Identify the elements of professional self-governance for our examination:

- behavioral traits (individual-psychological traits, interests, self-evaluation, level of self-confidence);

- The -motivational (objectives, morals/values/motivations/needs), knowledge of the labour market needs/obligations/empiricism, adequate assessment of social environment and family opportunities);

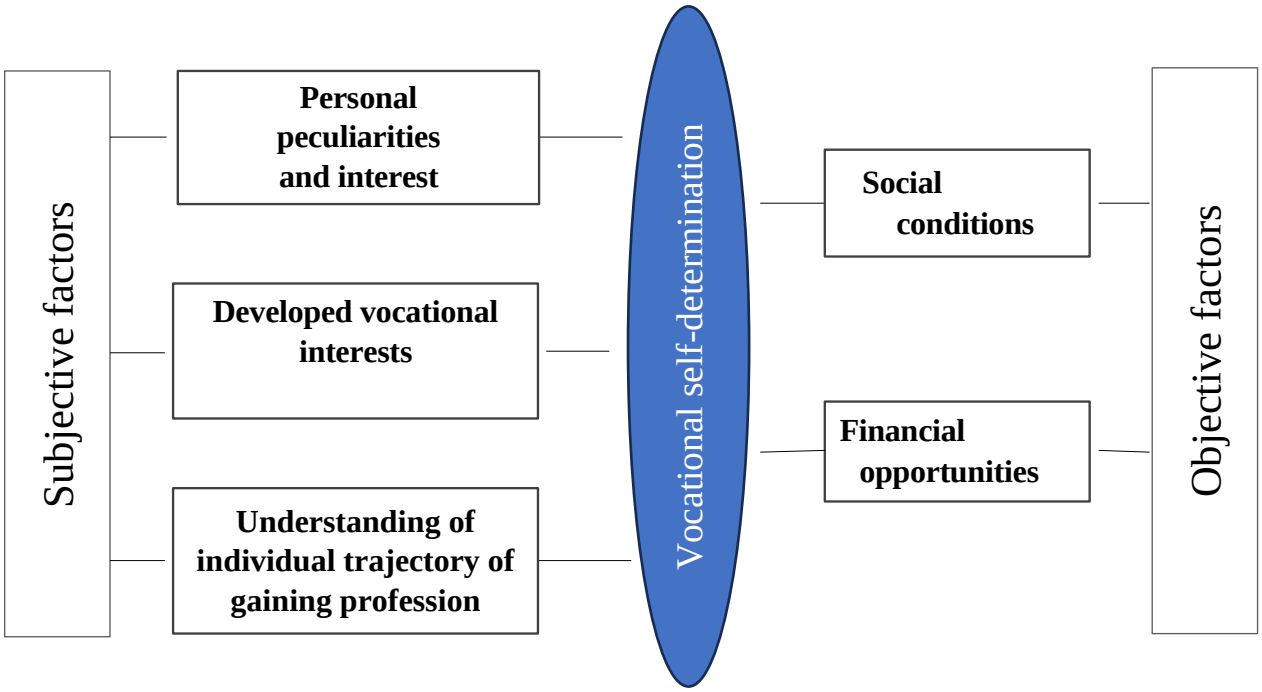
- Activity related (determination of course and desire to act in line with it).

Ultimately, the success of professional self-determination hinges on the harmonious combination of these elements. Nevertheless, it is important to consider the factors that influence middle school students' career choices in making the appropriate decision.

Let's identify the factors influencing career choice and analyze their impact on middle school students' professional self-determination (Figure 1).

Figure 1

The main factors influencing career choice of middle school students



Both the subjective nature of individual-personal qualities (subjective factors) and the social environment (objective factors) play a role in shaping middle school students' professional self-determination.

Our research indicates that middle school students' professional self-determination is influenced by subjective factors such as abilities, inclinations, self-evaluation, level of aspiration, awareness, and professional plans.

The choice of a career can be influenced by objective factors such as the demands of the labor market, family responsibilities, social support, and psychological and pedagogical support.

Successful career choices are influenced by the social environment, objective opportunities, and personal traits of middle school students. The list of individual-personal characteristics includes knowledge of personal abilities and preferences, the presence of predetermined professional interests, personal professional goals, and readiness for action. Professional interests are heavily influenced by personal ambitions, self-evaluation, and middle school students' knowledge of future professions. A person's lack of knowledge about the job market, job prospects in their chosen profession, and necessary professional and personal attributes is detrimental to the correct choice.

Identify criteria and indicators that describe the qualitative state of professional self-determination of middle school students by studying psychological and pedagogical literature related to various aspects of professional self-determination formation. By outlining these criteria, they establish the essential characteristics of the research object, guarantee the solution to the research task, and provide an understanding of the qualitative state of the components of middle school students' professional self-determination. Indicators aid in identifying dynamic shifts and provide a basis for making informed judgments.

The structure of our study outlines the criteria and indicators for professional self-determination:

- Achieving cognitive skills requires knowledge of personal interests, self-awareness, and a high level of aspiration.
- motivating through knowledge of the future profession, professional plan; social environment effect; labour market demand awareness).
- Activities related to activities, such as the choice of post-school education path and career options, as well as willingness to engage in meaningful work.

In essence, the process of middle school students' professional development is a dynamic endeavor that seeks to explore their professional preferences and develop them based on their personal characteristics, skills, and current labor market demands. Changes occur during one's professional life, with the profession being reconsidered in response to a range of life events, such as graduation, relocation. Various factors, such as age, personal development, interpersonal relationships, and socio-economic conditions, affect middle school students' professional self-determination. Accordingly, self-determination in the professional world involves a complex set of challenges that necessitate contemplating personal professional possibilities, conscious career choice, employing career strategies and taking action.

The analysis of existing approaches to psychological and pedagogical support reveals several key features of the concept being examined.

First, psychological and pedagogical support is intended to create conditions in which developmental subjects can make optimal decisions in different life decision situations.

Second, psychological and pedagogical support seeks the ability to search for optimal solutions independently from existing experience.

Second, psychological and pedagogical support is all-encompassing, including the sequential execution of the following procedures: identifying the essence of problem problems, finding ways to solve them, choosing the most effective solution, and providing early support for implementing the proposed solution plan.

Psychological and pedagogical support within an educational organization is designed to build the resilience of middle school students in terms of their self-concept, their personal growth as individuals, and the possibility of finding pathways for realizing future career aspirations. According to Lerner (2009), profile education should be centered around

individuals. A person-centered approach to providing support for students is directly linked to it.

The concept of psychological and pedagogical support in the literature of Chistyakova (2005) is similar to that of "assistance to middle school students" in their personal development. Mudrik (2006) defines support as assisting middle school students in developing their social skills through education, socialization, and engagement in the social-cultural and moral values that are crucial for decision-making, self-realization, and self-development. By presenting "creating optimal conditions for self-development" in his work, Kudryavtcev (1981) is making a case.

Leontyev (n.g.) highlights the primary psychological aspect in middle school students' decision to pursue a profiled education path, which involves diagnosing, shaping, and assisting them with their readiness for self-directed and responsible decision-making. It is important to complement this support with counseling work done with family members and school teachers, he adds.

A holistic approach to studying, forming and developing the professional development and correction of the individual is how psychological support is defined by Zeer (2008)." Early adolescence is when professional self-determination becomes one of the most important psychological phenomena, as he stated. Standing on the threshold of independent adult life, young people must become subjects of their future professional life: middle school students need to choose a professional educational institution, middle school students of the primary and secondary vocational education system need to define their attitude towards the profession they are acquiring."

Three indicators are identified as a result of Chistyakova's (2005) psychological support for middle school students' professional self-determination:

- Considered valuable (reasonable reasons for career choice, positive outlook on the decision-making process, active participation in student decisions and alternative options);

- Informational information includes knowledge of the world of professions, ability to use information sources to work independently, and a thorough understanding of the requirements of professions for individual traits.

- The following activities are based on practical standards: the ability to establish career objectives and implement action plans for each one, self-assessment of available career paths, self-monitoring and adjustment of professional plans, and self-actualization of potential capabilities to develop the necessary competencies.

Professional autonomy is the conscious, self-determining decision for a career path. The past generation of society required graduates who could perform tasks, but today it requires proactive, creative and active individuals with more freedom. When the 8th and 9th grades are over, a person can become a professional faster by successfully completing the stage of professional self-determination, which is crucial for the work of psychological and pedagogical support. All of the above highlights the need for graduates to have a clear career path, as recognized by society.

A review of the issue found that middle school students require psychological and pedagogical support to enable their professional self-determination due to ongoing changes in education and social life. This system needs to be based on the age and psychological characteristics of middle school students, while also being structured as part of an overall process that aims at facilitating middle school students' conscious decision about their future professional pursuits. In designing the system of psychological and pedagogical support for middle school students' professional self-determination, a phased approach is crucial. This necessitates a sequential approach in psychological and pedagogical work with middle school students, promoting methodically targeted organization of such support by revealing the essence of the process of professional self-determination: identifying what needs to be

achieved, how to organize the work, and what psychological and pedagogical means to use in the process.

As part of the grant-funded project at the Foundation Faculty of NAO "Toraigyrov University" in 2024, the "Career Academy" was established to provide early psychological and pedagogical support to school students in both offline and online formats. The main goal of the "Career Academy" is to assist middle school students in choosing their future career paths. Middle school students developed a system of psychological and pedagogical support for their professional self-determination through personality-oriented and activity-based approaches. Education was centered on the individual, their objectives, motivations, needs, intellect, and other psychological traits. They saw the learner as the subject of educational activities and professional self-determination as a process that occurs simultaneously with educational activity.

Thus, middle school students organized activities to enhance their professional self-determination and subsequently transformed them into subjects. Engaging middle school students in practical exercises to shape their professional self-determination is a valuable strategy for strengthening these choices. There were various forms, methods and techniques used in the process. This led to the development of a system of psychological and pedagogical support for middle school students to engage in professional self-determination by experiencing, experiencing (and trying) various behavioral options, problem-solving approaches, and different paths of professional self-realization. The system's development was based on the following fundamental principles: integrity, systematicity, consideration of age and psychological characteristics; competence; freedom of choice; and confidentiality. Psychological and pedagogical support for professional self-determination is divided into three stages: diagnostic, motivational, and activity-oriented. Certain types of psychological and pedagogical activities are associated with each stage. Forms and methods are picked out according to the specific tasks of each type. The focus on psychological and pedagogical support during the activity-oriented phase seeks to influence the eventual choice of future careers. Services like counseling, excursions, and attending open days are among the forms of work done. Professional counseling seeks to determine the corresponding characteristics of individual psychological and personal traits with respect to profession.

Research results and discussions

In the investigation of middle school students' professional inclinations using Klimov's DDO, participants were categorized into groups based on their preferences towards particular types of professions. Examination of the research data reveals a prevailing inclination towards humanitarian fields in the career choices of the entire student sample. The findings obtained are outlined in Table 1.

Table 1

The results of the research on inclinations towards specific types of professions using E.A. Klimov's DDO methodology

Middle school students	**Human-Nature**	**Human-Technology**	**Human-man**	**Human-Symbol**	**Human-Art**
Number	2	2	9	5	9
%	7,4	7,4	33,3	18,5	33,3

In the eleventh-grade cohort, a predominant inclination towards professions aligned with the "Human-Human" type was observed, constituting 33.3% of the tested individuals. The

students in this type of middle school tend to be inclined towards careers that involve interpersonal communication and service, such as teachers, medical professionals, psychologists, among others. The survey findings indicated that 33.3% of participants identified with the "Human-Artistic Image" type, indicating a preference for careers in the visual arts and acting. Moreover, 18.5% of middle schoolers were classified under the "Human-Symbolic System" category, indicating a preference for professions that involve numerical and linguistic symbols, such as engineering, graphology, and economics, in addition to musical activities.

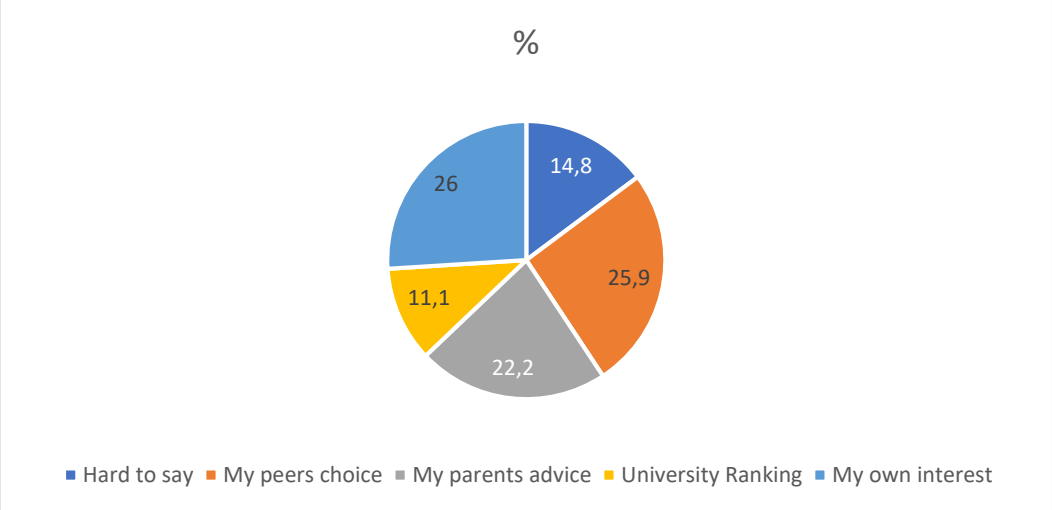
Besides that, 7.4% of middle school students identified themselves as part of the "Human-Technology" category and are suitable for various technical jobs such as automotive mechanics or machine repair technicians. In the same vein, 7.4% of those surveyed identified themselves as members of the "Human-Nature" category, with a preference for careers in agriculture, veterinary medicine, forestry, and ecological studies.

Given the multifaceted nature of career decision-making, middle school students are required to engage in extensive analytical deliberation to make informed choices. This involves introspective examination of their internal resources encompassing interests, aptitudes, personality traits, and values, juxtaposed with the demands of their desired profession. Moreover, middle school students were administered a survey titled "Interest Map: Determining Professional Direction of Personality," aimed at elucidating the presence of a structured career plan and the underlying motivations guiding career choices.

The survey solicited responses regarding the influential factors driving career decisions. An examination of the reasons for career choices among middle school students emphasized the importance of external guidance, with 25.9% citing peer influence, 22.2% relying on parental or family advice, and 11.1% weighing university prestige against their own decisions. Also in terms of decision-making, 14.8% struggled to explain their reasoning, while 25.9% cited personal professional interests as being compatible. The graphical representation of survey outcomes is presented in Figure 2.

Figure 2

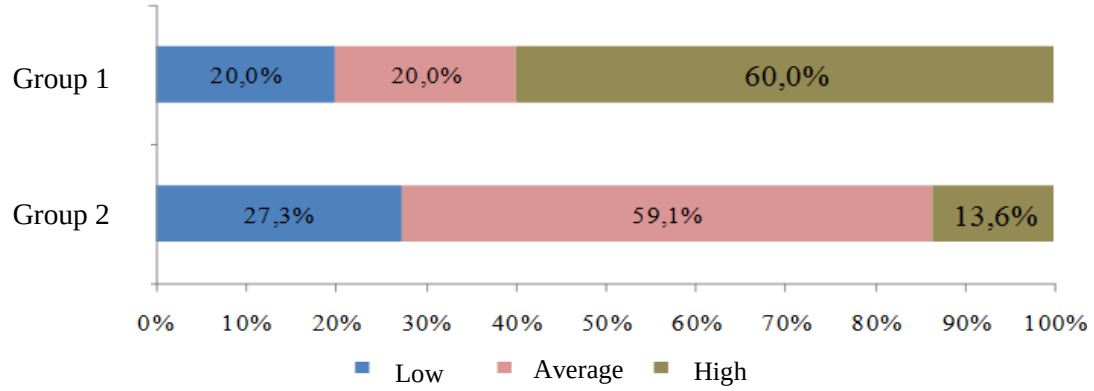
The main factors influencing career choice, % of the total number of research participants.



By completing a self-assessment map of readiness for self-determination, middle school students were able to determine their level of readiness. According to this map, middle school

students were instructed to indicate whether each criterion was fully formed, partially formed, or not formed at all. Among the middle school audience, the results showed that 29.6% of participants had low self-determination readiness (median level), 48.1% were averaged at levels of 5.5%, and 22.2% had a high degree of self-assessment. Figure 3 illustrates the distribution of readiness for self-determination among the identified groups.

Figure 3
Level of students' readiness for self determination



As a result of the diagnostic assessment, it was found that 14.8% of students in the survey have a low level of professional self-determination, while 63.0% have an average readiness level and 22.2% have a high level. These findings also suggest that for most middle school students, the average level of professional self-determination readiness is not good enough for making career decisions. It is important to note that most students need to work on developing qualities such as determination and independence. A better understanding of the world of professions, regional requirements, and potential for further education is necessary before making successful career choices.

Conclusions

Middle school students' diagnostic outcomes demonstrate that most high school students have an average level of preparedness for professional self-determination, which is not sufficient to make informed career decisions. It is imperative to focus on enhancing attributes such as determination and autonomy. Middle school students require an increased understanding of various professions, regional demands, and potential avenues for further education to make successful career choices. Consequently, there is a growing emphasis on implementing a psychological and pedagogical support system for middle school students within educational institutions. This system should be tailored to the age and psychological traits of middle school students, structured as a comprehensive process aimed at facilitating informed career decisions among them.

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EXPLORING NEEDS ANALYSIS AMONG HIGHER EDUCATION STUDENTS IN TEACHING LANGUAGES FOR SPECIFIC PURPOSES

Abstract: This article explores contemporary perspectives in linguodidactics regarding the necessity of conducting needs analysis for students studying languages for specific purposes. With a growing emphasis on linguistic proficiency for professional engagement globally, universities, including those in the Republic of Kazakhstan, face the challenge of aligning language education with the genuine needs of graduates and employers. This study systematically outlines primary categories of student needs and facilitates informed decision-making in curriculum design and pedagogy selection. Through analysis of existing research, the investigation informs the development of educational content, instructional methodologies, and technology integration in university-level language courses. Ultimately, this approach aims to adequately prepare students for the current Kazakhstani labor market, ensuring their competitiveness by fostering communicative and professional competencies in multiple languages, such as Kazakh, Russian, English, and other foreign languages, thereby exemplifying the concept of professional multilingualism.

Key words: learner needs analysis, learner-oriented approach, professional multilingualism, expected learning outcomes, language for specific purposes.

Introduction

Currently, the necessity of linguistic proficiency for engaging in professional endeavours across diverse areas is increasingly underscored in contemporary society worldwide, including the Republic of Kazakhstan. Consequently, universities must ensure that the content and teaching methods employed for language education align with the genuine needs of graduates and employers, adequately preparing them for the current Kazakhstani labour market. This ensures that Kazakhstani professionals remain competitive, possessing both communicative and professional competencies in multiple languages, including Kazakh, Russian, and English, thereby exemplifying the concept of professional multilingualism (Aimoldina & Zharkynbekova, 2023).

The objectives of delivering instruction in languages for specific purposes in university discipline courses are in obedience with state educational requirements. The sample program's creators underline the need to give consideration to the needs, interests, and personal characteristics of the student in addition to providing instructional objectives. They support the student's active participation as an essential member of the learning process, encouraging an intentional collaboration and interactive teaching style with the instructor. This approach directly correlates with advancing student independence, fostering their creative endeavours, and instilling personal accountability for the efficacy of their learning (Richards & Rodgers, 2014).

Despite the growing recognition of the importance of needs analysis in language education, particularly within the context of higher education, research addressing this issue remains limited, especially in the context of Kazakhstan. The unique linguistic and educational landscape of Kazakhstan necessitates a deeper understanding of the needs of higher education

students in language learning, especially in the realm of teaching languages for specific purposes. Therefore, this study seeks to fill this gap by conducting a comprehensive investigation into the needs analysis of higher education students in Kazakhstan, shedding light on an area that has received insufficient attention in the country's educational discourse.

The main aim of this study is to systematically outline and comprehend the primary categories of needs identified among students, particularly in the context of languages for specific purposes, through an analysis of existing research conducted by scholars and experts in this field, available in databases such as Scopus, Web of Science over the period. This research aims to facilitate informed decision-making in developing educational content, selecting pedagogical methods, and using educational technologies necessary for designing a curriculum tailored to a professionally oriented language course in a university setting.

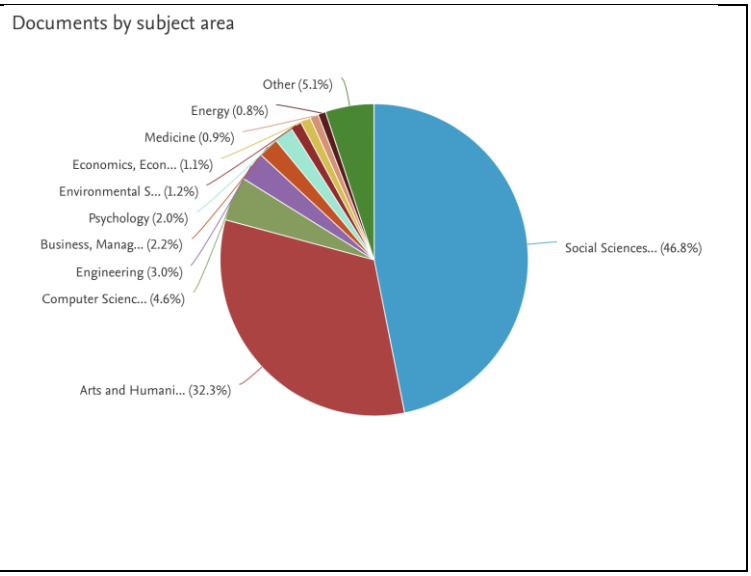
Research methodology and data analysis

Initially, the literature review for this study was based on previously published studies addressing needs analysis issues among learners and others stakeholders in language teaching. A comprehensive database search was conducted using Scopus and Web of Science following the algorithm of scientometric analysis. During the initial literature search in these databases, keywords such as "Needs analysis," "Needs", "ESP," "English," "Needs assessment," "Learner needs analysis," and "Learner-oriented approach" were used. The search criteria for Scopus and Web of Science were as follows: ["Needs analysis" AND "Needs" AND "ESP" AND "English" OR "Needs assessment" OR "Learner needs analysis" OR "Learner-oriented approach"]. This search was restricted to English-language studies published between 1980 and 2024. Based on this query, Scopus and Web of Science provided a list of 1,445 publications containing the specified keywords. As shown in Figure 1., the highest contributed documents in needs analysis in language learning process are in journal articles (1024 documents (70,9%)) followed by 194 book chapters (13,4%). As for the subject-wise publication coverage, the scientometric analysis shows that the subject "Social Sciences" covers the highest number of publications (1255 publications) followed by the subject "Art and Humanities" (880 publications), "Computer Science" (120 publications), "Engineering" (79 publications), "Business, Management & Accounting" (58 publications), "Psychology" (56 publications), and others (See Figure 1).

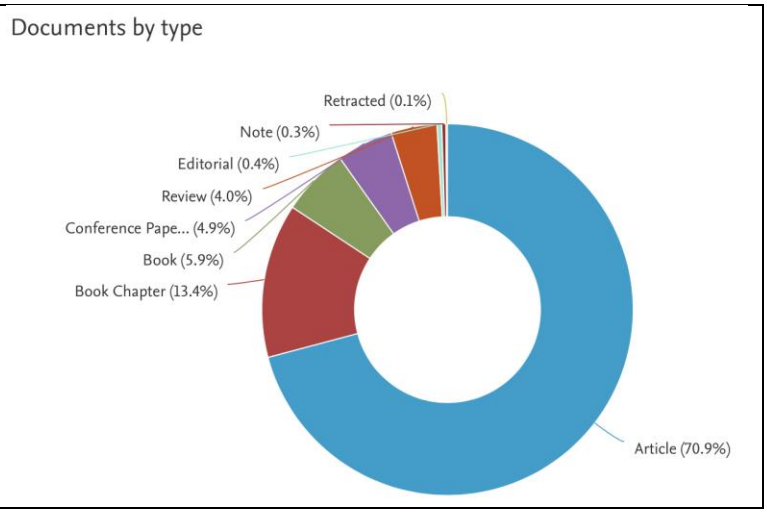
Figure 1

Publications results Scopus by document type and subject area (based on Scopus).

Subject area	Document
Social Sciences	1255
Arts and Humanities	880
Computer Science	120
Engineering	79
Business, Management & Accounting	58
Psychology	56
Environmental Science	30
Economics, Econometrics & Finance	28
Medicine	24
Energy	22
Physics and Astronomy	17
Mathematics	17
Decision Sciences	14
Nursing	13

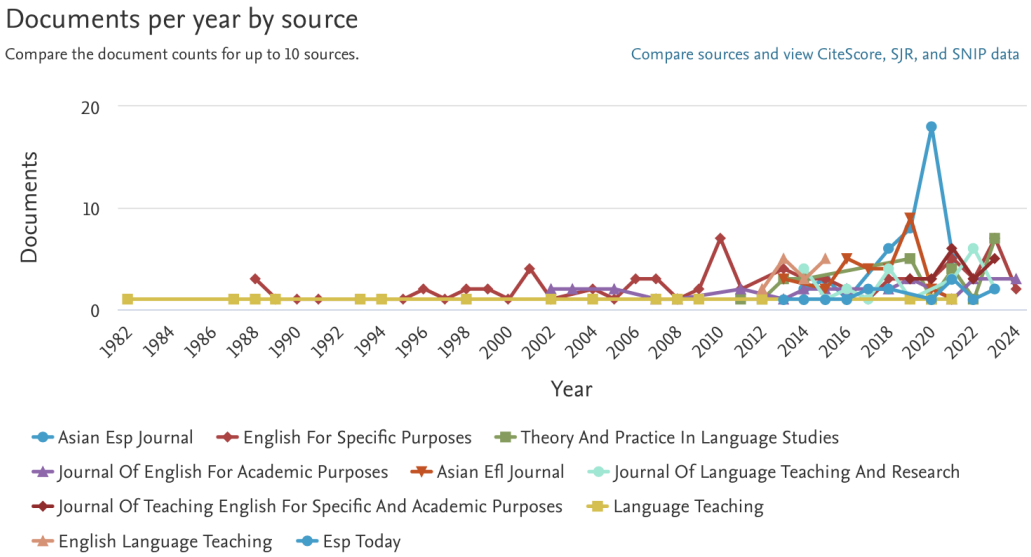


Multidisciplinary	13
Agricultural and Biological Sciences	10
Earth and Planetary Sciences	9
Pharmacology, Toxicology and Pharmaceutics	8
Materials Science	7
Health Professions	7
Chemical Engineering	5
Biochemistry, Genetics and Molecular Biology	5



Regarding the distribution of articles published over a period of time by the journals dealing with the considered topics and its related themes, significant growth in the number of publications on needs analysis in determining learners' needs in teaching languages for specific purposes identified between the period 1980 and 2024. The major contributed journals are English For Specific Purposes (80), Asian ESP Journal (43), Asian EFL Journal (30), Journal of English for Academic Purposes (29), Theory and Practice in Language Studies (26), Journal of Language Teaching and Research (24), Journal of Teaching English for Specific and Academic Purposes (20), Language Teaching (16), English Language Teaching (15), ESP Today (15), and others (See Figure 2).

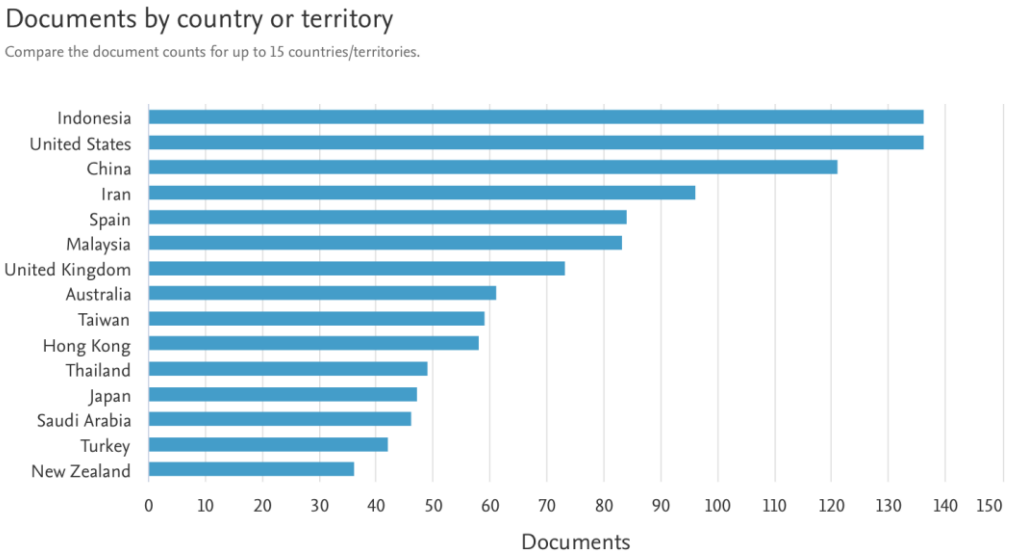
Figure 2
Publications results by the journal (based on Scopus)



The scientometric analysis also indicates the countries with higher productivity of publications on determining learners' need in language teaching at universities globally. Thus, for example, from the figure 3 the top 15 contributors are presented, i.e., Indonesia (136 publications), United States (136), China (121), Iran (96), Spain (84), Malaysia (83), United Kingdom (73), Australia (61), Taiwan (59), Hong Kong (58), Thailand (49), Japan (47), Saudi

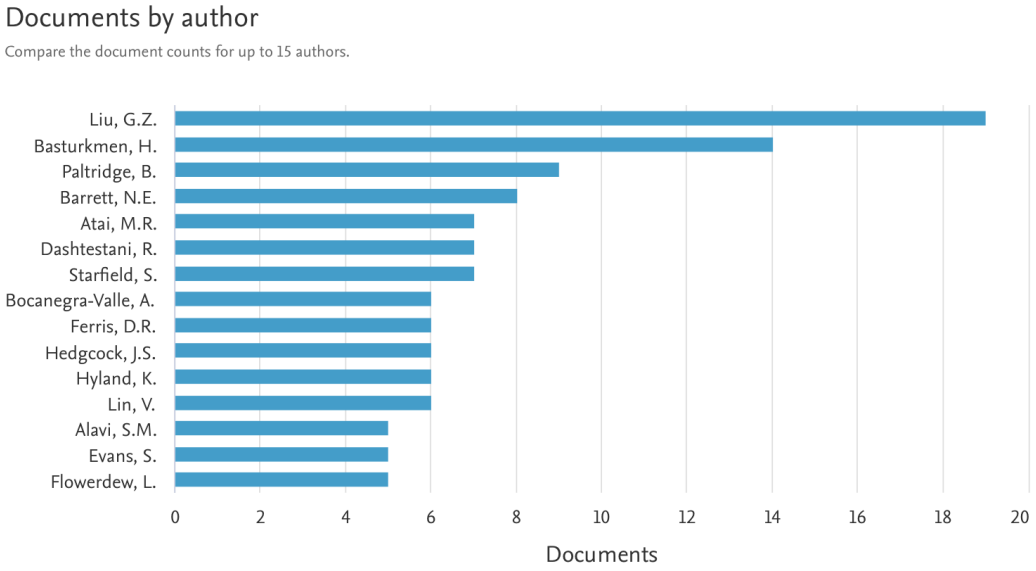
Arabia (46), Turkey (42), New Zealand (36). It is interesting to note that seven publications from Kazakhstan have been included in the database on the given topic.

Figure 3
Publication results by country (based on Scopus)



In addition, the first top 15 authors who produced the highest number of publications on the given subject over the considered period refer to Liu, G.Z. (19), Basturkmen, H. (12), Paltridge, B. (9), Barrett, N.E. (8), Atai, M.R. (7), Dashtestani, R. (7), Starfield, S. (7), Bocanegra-Valle, A. (6), Ferris, D.R. (6), Hedgcock, J.S. (6), Hyland, K. (6), Lin, V. (6), Alavi, S.M. (5), Evans, S. (5), Flowerdew (5), and others (See Figure 4). As for Kazakhstani authors, the most cited researchers on this topic are Valieva et al. (Valieva et al., 2019) and Baimanova et al. (Baimanova et al., 2020).

Figure 4
First top 15 authors with the highest number of publications over the period



Thus, for full-text analysis, 46 papers were selected from the initial set of sources. The selection process aimed to reduce the number of works and was based on identifying the most cited publications from the lists obtained from Scopus and Web of Science, sorted by relevance, resulting in a total of 35 publications.

Subsequently, conceptual and comparative analyses were employed in this study to ensure the accuracy and quality of the review process, with a specific focus on the field of research on languages for specific purposes and the analysis of students' needs within the educational context.

Conceptual analysis involves examining, defining, and clarifying the fundamental concepts or ideas central to a particular field of study. This method requires a rigorous examination aimed at comprehensively understanding the nuances, boundaries, and interconnections inherent within these fundamental ideas within a specific contextual framework (Mahoney & Rueschemeyer, 2003). Conversely, comparative analysis is a methodological approach used to systematically examine and evaluate similarities and differences among multiple entities, cases, theories, or phenomena. It entails a meticulous examination aimed at discerning underlying patterns, contrasts, interrelationships, or prevailing trends across the entities under scrutiny (Ragin, 2014). Both conceptual and comparative analyses play pivotal roles in augmenting scholarly comprehension of the subject matter at hand.

Literature review

The literature review showed that numerous experts in linguodidactics emphasize the significance of considering students' needs during the learning process.

Research on the needs of language learners has been conducted since the 1970s. One of the foundational works in this area is Munby's "Communicative Syllabus Design" (Munby, 1981). Munby's book delineates the communicative necessities of students and emphasizes the significance of considering "variables impacting communicative needs" (Munby, 1981, p. 32). He conceptualizes these variables as a dynamic set of parameters encompassing *the learner* (essential information about the learner), *the range of objectives* (educational or professional aims in language learning), *the environmen*t (both physical and psychological contexts), *interaction dynamics* (involving participants and the learner's role in communication), *instruments* (diverse methods and channels of communication), *dialects* (local language variants), *required* language skill level), *communicative contexts* (situations where the language will be used), *and communication style* (degrees of politeness and other nuances of communication) (Munby, 1981, p. 34). Munby's detailed parameter analysis leads to the proposition of devising a customized list of linguistic aspects recommended for study by individual students. Poliyakov (2014), in his examination of Munby's work, observes that the system proposed primarily concerns "what to teach" (i.e., the learning content), neglecting the methodology of teaching (p. 133). Moreover, in this approach, the learner and their needs seemingly remain peripheral, not within the primary focus of the researcher's interests. Nevertheless, Munby's contributions transformed the educational process and gave rise to the term "needs analysis".

In this regard, gathering data on students and communication tasks is part of needs analysis process, which is an essential step before the course starts. This first phase ensures that resources, materials, and course descriptions are ready before classes begin (Paltridge & Starfield, 2016).

Richards (2014) characterizes needs analysis as the procedure used to collect information about learners' needs, whereas Tudor (2001) describes it as an investigation of learners' cognitive and behavioural aims. Tudor (2001) recommends that language learners create their

own "learning priorities", which include the concepts and goals they aim to express in the target language (p. 76). It is the duty of the instructor to look into and record the goals of the students; students take an active part in this process by communicating their goals and directing their own learning alongside the instructor.

Interestingly, Munby (1981) suggests that needs analysis aims to align language courses with the requirements of distinct student groups, each possessing varying language proficiency levels and diverse learning goals across different countries. Introducing the Communication Needs Processor (CNP), Munby (1981) outlines a series of procedures comprising various inquiries, enabling the identification of the specific needs of student cohorts characterized by distinct language proficiency levels and learning objectives.

Furthermore, West (1994) highlights the practical intent behind conducting a needs analysis. This means that in order to create their course curriculum, educators must investigate the particular needs of students in their intended context. On the contrary, Long claims that a successful instructional design must start with the consideration of needs of the learners (Long & Crookes, 1993; West, 1994).

Moreover, in his work Hyland provides a thorough description of both "needs analysis" and "needs" (Hyland & Rodrigo, 2007). Hyland states that methods aimed at obtaining and evaluating data directly related to creating a course curriculum are included in needs analysis.

Hence, this process aims to address the fundamental inquiries of what and how the course content should be structured. It is an iterative process, adapting teaching approaches as insights about the learners accumulate. Furthermore, needs analysis serves as an evaluation tool, assessing the course's efficacy. "Needs" refers to a broad range of factors, such as learning goals, language ability, motivation for taking a course, preferred instructional strategies, and real-world situations in which students intend to use the knowledge they have learned. It also includes students' present knowledge and abilities, areas of unfamiliarity, and areas they aspire to learn, and this data can be gathered and examined through diverse methodologies. Therefore, needs analysis comprises an examination of both the present situation and the anticipated outcomes, as denoted by "Present Situation Analysis" and "Target Situation Analysis", as articulated in the terminology of Hutchinson and Waters (Hutchinson & Waters, 1987, p. 63).

Results and discussion

The analysis of studies conducted on the considered topic revealed that in the field of linguistics, the concept of "needs" is subject to diverse scholarly perspectives, leading to a range of interpretations and understandings among researchers. For instance, West broadly defines "needs" as an overarching term that encompasses multiple interpretations (West, 1994), while Richterich & Chancerel (1978) goes further to distinguish between "needs" and "wants," where "wants" refer to learners' subjective desires or perceived necessities, which are often unpredictable and challenging to define.

A range of recent studies have explored the needs of students in learning, identifying various factors. The study by Chiu et al. (2023) presents a needs analysis-based approach to design principles for constructing a context-aware English learning system, particularly focusing on English for Fitness. Bocanegra-Valle and Basturkmen (2019) investigates the teacher education needs of experienced English for Specific Purposes (ESP) instructors in Spanish universities, highlighting perceptions of needs in course development, target discipline knowledge, language use in the target discipline, peer collaboration, and professional development opportunities, aiming to inform future teacher development initiatives in the local context. Furthermore, Paltridge and Starfield (2016) provide an overview of the development of genre in ESP, discussing its early origins, its relation with discourse analysis, and the emergence of the Create a Research Space model, alongside highlighting the use of ethnographically oriented research and studies examining speaking rate and content

information in academic settings, aiming to offer insights into ESP language use and disciplinary identity. These studies collectively underscore the importance of addressing a range of factors, including pedagogical approaches, facilities, and student motivation, in meeting students' needs in learning.

Types of learners' needs

Outcomes of conceptual and comparative analyses of research publications on the considered issue gave an opportunity to identify the main categories of students' needs in learning.

Objective and Subjective Needs. Learner needs are commonly categorized into objective and subjective needs. Objective needs pertain to how learners will apply the language upon completing the course, encompassing acquired language elements enabling them to engage in communicative roles. Hence, objective needs are directly linked to the instructional content, while subjective needs concern the learning process itself. It involves all of the steps that students must take to acquire a language, including study habits, motivation, abilities, methods of study, and the implementation of methods of learning (Tzotzou, 2014).

Learners' personal demands, which are shaped by their unique learning strategies or styles, are reflected in their choices for learning techniques. For instance, although some students may find aural or kinaesthetic methods more successful, others may prefer visual assistance or interactive exercises. It is critical to understand that each student's tastes are unique and susceptible to interpretation.

Based on Eragamreddy's perspective on the importance of motivation in English as a Foreign Language (EFL) learning (Eragamreddy, 2015), motivation is shown as an arbitrary requirement serving as a cornerstone of the learning process. It is a critical factor, particularly important in the context of teaching EFL, as student motivation – internal or external – takes on paramount importance. Internal motivation plays a pivotal role, facilitating easier knowledge enhancement and goal achievement in education; it acts as an internal process aiding students in attaining their educational objectives. Conversely, internal motivation intertwines with personal aspirations, enabling students to pursue their passions, interests, and inspirations autonomously. When learners find a task personally engaging, they are more inclined to actively participate and invest genuine effort in seeking solutions (Deci & Ryan, 2013). Furthermore, external motivation can emanate from various sources within students' societal sphere, such as friends, family, institutions, and teachers. Extrinsic motivation drives individuals to perform a task either to attain a reward or to evade a punishment stemming from an external source. Aspuri et al. (2019) emphasize the role of motivation, with Aspuri specifically highlighting the importance of instrumental motivation in EFL learning. This suggests that while motivation is crucial in EFL learning, there may be challenges in fostering intrinsic motivation.

Initial and ongoing needs. Brindley expanded upon Richterich's differentiation between "objective" needs and "subjective" needs (Brindley, 1989). This pertains to the contrast between externally tailored, learner-focused proclivities relate to subjective wants, whereas demanded, standardized demands connect to objective needs. The time and breadth of the assessments distinguish original and continuing evaluations from one another. The former typically falls outside a teacher's control, often determined by curriculum specialists before a course begins, while the latter refers to teachers' more informal assessments conducted once the course is underway. Rocha-Erkaya and Ergünay (2021)further explore the complexities of identifying and addressing these needs, with the former cautioning against relying solely on self-perceptions and the latter revealing the specific instructional and attitudinal needs of pre-service ELT teachers.

Language proficiency needs, psychological-humanistic needs and specific-purpose needs. Brindley's categorization of language proficiency needs, psychological-humanistic

needs, and specific-purpose needs has been widely acknowledged in the field of language teaching (Brindley, 1989). The necessary degree of language competence that students must attune themselves to is known as language proficiency needs. Psychological and humanistic needs include the psychological characteristics of language learners in connection to language learning, such as their confidence levels during language acquisition. Specific-purpose demands identify the language skills that students must acquire in order to perform actual job tasks (Tzotzou, 2014; Warti, 2020).

Target and learning needs. Within their framework, Hutchinson and Waters made a distinction between two main types of needs: learning needs refer to those that are vital to the learning procedure itself, whereas target needs are those that are required for students to function successfully in a particular setting. Additionally, target needs are made up of three interrelated elements: "necessities", which are the fundamental skills that learners must have in order to effectively deal with the planned circumstance (as defined by Munby); "wants", which are the knowledge that learners believe is essential for their best performance in the language they are attempting to learn; and "lacks", which are the differences between student present and preferred levels of competency in the language being studied (Huhta et al., 2013). Warti (2020) and Ulfah et al. (2021) both used this model to identify the specific language needs of students and employees, respectively. Warti (2020) found that students in an English Business and Management program required improved English skills for work, while Ulfah et al. (2021) designed an English for Professional Purposes course for government employees based on their needs.

Content and process needs. Keith Johnson departed from the difference between objective and subjective requirements by introducing a distinction between content needs and process needs (Johnson & Swain, 1997). Content needs refer to the specific linguistic elements or content that learners need to acquire or master within the language they are learning. It encompasses the essential components of language such as vocabulary, grammar, syntax, phonology, and discourse patterns. For instance, content needs could involve acquiring a certain number of vocabulary words, understanding grammatical rules, comprehending sentence structures, and recognizing the appropriate use of language in various contexts.

This was further emphasized by Surfaifel & Wirza (2021), who found that students in an English Literature program required prose teaching material that integrated English skills, and preferred group-based teaching methods. Therefore, the ways, techniques, or processes that pupils employ to learn or use language should be the primary concern. The methods, approaches, and tactics that students use to successfully learn, remember, and use the language are all included in the aforementioned requirements. Process needs could include developing successful study habits, comprehending learning styles, using vocabulary acquisition strategies, performing syntax correctly, expanding verbal and written competencies, implementing notes, and strengthening both reading and listening awareness.

Furthermore, based on the above-mentioned information, the most significant students' needs in learning languages were identified.

Relevance and Practicality. Students often seek language learning materials and activities that have immediate relevance to real-life scenarios. They value content that can be directly applied in practical situations, such as travel, work, or social interactions. Research by Richards and Rodgers (2014) emphasizes the importance of meaningful and authentic tasks in language learning, which help students connect their learning to real-world contexts.

Engaging and Interactive Learning. Students appreciate engaging and interactive learning experiences. They value activities that involve collaboration, discussions, role-plays, games, and the utilization of multimedia resources. Miller et al. (2020) emphasizes the importance of creating interactive, media-rich, self-paced lessons, while Qian & Clark (2016) supports the use of interactive tutorials to promote effective learning.

Clear Goals and Progress Tracking. Setting clear language learning objectives and having tools to track progress are essential for students. They benefit from structured learning paths and regular assessments that enable them to monitor their improvement. Nation (2001) emphasizes the importance of goal-setting and progress evaluation in language learning, stating that explicit goals contribute to more effective learning.

Supportive Learning Environment. A supportive atmosphere is pivotal for effective language learning. Students value knowledgeable and approachable teachers, access to adequate learning resources, and classrooms that encourage participation and collaboration. Teachers can support students' self-determined motivation by promoting their sense of autonomy, competence, and connectedness (Dincer et al., 2019).

Customized Learning. Research consistently shows that personalized learning experiences, including tailored feedback and adaptive learning materials, lead to improved student outcomes (Kochmar et al., 2020). These experiences are particularly effective in language curricula, where students benefit from exploring their individual interests (Amzil et al., 2023). Hattie and Timperley's emphasis on the importance of feedback in enhancing student learning is supported by these studies, which demonstrate the positive impact of personalized feedback on student learning (Amzil et al., 2023; Kochmar et al., 2020).

Cultural Understanding. The integration of culture as a key language skill is crucial in language teaching, as it enhances communication and reduces misunderstandings (Syaputri et al., 2021). This is particularly important in foreign language teaching, where the goal is to increase international understanding and awareness. Understanding cultural background information, such as history and social conventions, is also emphasized in English teaching.

Motivation and Confidence Building. Students require motivation and strategies that build their confidence in language learning. Encouragement, positive reinforcement, and opportunities to showcase their language skills contribute significantly to their motivation and self-assurance. Deci and Ryan's Self-Determination Theory also emphasizes the role of motivation in sustained learning efforts and achievement (Deci & Ryan, 2013).

Flexibility in Learning Styles. Recognizing and accommodating diverse learning styles is crucial in education, as it can significantly impact students' assimilation of information and achievement in assessments (Dube & Ma, 2010). This is particularly relevant in the design of flexible learning programs, where individual differences in cognitive style, instructional preferences, and learning strategies must be considered. The development of flexible e-assessment systems, inspired by design methodology management, can further enhance the accommodation of different learning styles (Dube & Ma, 2010).

Techniques for conducting need analysis

Learner needs analysis has been carried out employing a variety of models and methods that have been offered. Tudor (2001) highlights Munby's well-known paradigm, which is well-known for determining how to evaluate students' actual interaction requirements. Individual, effectiveness, setting, communication, purposive area, communicative occasion, and communication keys are among the nine important features that this model assesses.

Tarone and Yule, on the other hand, offered a different requirements analysis model in 1989 that separated language usage by learners into four levels: global, rhetorical, grammatical-rhetorical, and grammatical (Oxford, 2018). Global level refers to the broad communicative purposes for which the language is used. It encompasses overarching functions such as expressing ideas, persuading, informing, or entertaining within various communication contexts. The rhetorical level pertains to the ways in which language is structured and organized to achieve specific communicative purposes. It involves understanding discourse patterns, text organization, and rhetorical strategies employed in communication. Grammatical-Rhetorical level signifies the intersection of grammatical structures and rhetorical functions in language use. It involves analysing how linguistic structures and

grammar choices contribute to achieving communicative goals and rhetorical effectiveness. Grammatical level, the focus is on the specific grammatical features and language structures utilized in communication. It involves the study of sentence structures, vocabulary usage, syntax, and grammatical accuracy.

Analysts have drawn attention to these two models' shortcomings, arguing that they fail to explore learners' "conceptual" and "pragmatic" skills in preference for merely achieving their objective demands.

Needs analysis can be carried out in a number of ways; popular techniques include surveys, evaluations, cases, discussions, polls, employees and learners, pilot programmes, actual data collection, participatory needs analysis, and advice from experienced sources.

A revised strategy to needs analysis is centred on the task-oriented analysis technique, which views the "task" as the main component for evaluation and as the essential component for organizing interactive instruction in class. Such "tasks" specify specific assignments that students must or want to do in the target language (Long & Crookes, 1993).

Task analysis is divided into three key phases, as defined by Long: (1) analysing "target tasks", or the actual tasks people perform on a regular basis, using data gathered from multiple sources through the triangulation methods; (2) determining language samples representative of these tasks and classifying them into "task types", which serve as the basis for course design; and (3) creating pedagogic tasks, which have been altered variations of target assignments designed for teaching purposes in order to accomplish the curriculum's goals (Huhta et al., 2013).

In tandem with Long's research efforts, Chaudron assessed 84 students enrolled in Korean language courses at the University of Hawaii, undertaking one of the initial task-based needs assessments within a postsecondary foreign language curriculum. Similarly, to equip learners with relevant language skills, Van Avermaet and Gysen conducted empirical research to ascertain the educational needs of approximately 200 adult learners studying Dutch as a second language. Lambert contributes valuable insights into task-based needs analysis within tertiary-level English language programs, shedding light on the linguistic tasks encountered by students pursuing careers in business and education (Chiu et al., 2023).

A comprehensive evaluation of needs should include a range of research methods and instruments, as well as interviewees from different backgrounds. Selecting sources and choosing appropriate data collection tools should be carefully considered before beginning a requirements analysis project. As stated by Robinson, groups of people who have an impact on education are alumni, pre-service and in-service students, institutional representatives, employers, and so on. Data from these interested parties can be gathered using a variety of techniques, such as in-person or internet-based inquiries, directed or open-ended surveys, evaluation of interaction processes, examining how language is used in pertinent settings, conversation examples, employment or corresponding papers, assessment of performance, and examples for student assignments in the area of interest.

Thus, as many researchers assert the primary instrument for needs analysis is a survey, either used independently or in conjunction with interviews. This process frequently includes "developing survey responses from data obtained in interviews, or questioning a selected group of the individuals who submitted a survey" (Cohen et al., 2002, p. 564) . Using a variety of sources and techniques (triangulation) while gathering data enhances the requirements analysis by offering a range of viewpoints that support conclusions and improve results.

Therefore, recent studies in ESP have highlighted the importance of conducting needs analysis to identify learners' specific needs, wants, and lacks (Kolomiets et al., 2020; Octaberlina, 2021). This analysis is typically carried out through questionnaires and interviews, with a focus on the learners' perspectives. The findings of these studies have emphasized the need for regular feedback from learners to improve the teaching and learning process.

Furthermore, the studies have underscored the importance of considering the professional and academic content, situational content, and pragmatic content in the design of ESP syllabi (Kolomiets, 2020). The ultimate goal of these needs analysis studies is to enhance the effectiveness of ESP teaching and learning by aligning the content and methods with the learners' specific needs and skills (Octaberlina, 2021).

Conclusion

This study provides an overview of literature regarding the significance of students' needs and the pivotal role of needs analysis in language learning, drawing upon insights from various scholars and researchers in linguistics.

A critical point emphasized the indispensable role of needs analysis in tailoring language education to meet the diverse requirements of learners. This involves a nuanced exploration of language proficiency, learning styles, cultural nuances, motivation, and the establishment of a supportive learning environment.

Through analysis, several critical dimensions of students' needs in language learning were highlighted, underscoring the importance of relevance, interactivity, clear goal-setting, supportive environments, customization, cultural sensitivity, motivation, confidence-building, and flexibility in learning styles. These dimensions collectively contribute to effective language education that resonates with learners' real-world experiences and aspirations, fostering their intrinsic motivation to learn.

The findings of a conducted needs analysis will facilitate the development of a personality-oriented program in the discipline of "Language for Specific/Professional Purposes" and enhance awareness of techniques to ensure the efficacy of language education. These insights are evident from both theoretical literature and practical analyses of needs and anticipated outcomes in language acquisition for specific purposes. However, this process is intricate, necessitating thoughtful consideration of numerous factors.

Furthermore, it is imperative to underscore the necessity and relevance of this topic for Kazakhstani higher education and the labor market. Collaboration between academia and the labor market is crucial to prepare professionals equipped with the language skills, cultural competencies, and intrinsic motivation demanded by today's globalized workforce. This collaborative effort ensures that language education programs not only meet academic standards but also align with the practical needs of the labor market, thereby fostering economic growth and competitiveness on both local and international scales.

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ACADEMIC MOBILITY: PROSPECTS AND ADVANTAGES

Abstract: The article is devoted to the problem of analyzing the opportunities, advantages, prospects, and difficulties of academic mobility carried out among the teaching staff of higher educational institutions. The implementation of academic mobility in the country for the most part takes place among students.

The presence of this work among teachers in higher educational institutions also provides many opportunities for improving the educational process and increases the experience of teachers. First of all, it is an exchange of experience with teachers from other universities, second, work with a new student environment, and thirdly, work with the library fund of the same university. As a proposal, the authors demonstrate the Prevention of these problems by sharing the problems and experiences that have occurred during the implementation of academic mobility through such events as organizing special seminars, holding a round table, and conducting training to conclude as a result of the implementations of academic mobility among teachers of higher educational institutions.

Keywords: academic mobility, exchange of experience, professional training, educational work.

Introduction

According to the concept of academic mobility, academic mobility is the transfer of students or researchers for a certain academic period (including academic or work experience), as a rule, a semester or academic year, to another higher educational institution (domestic or abroad) to conduct study or research, a mandatory recalculation in the established order of educational programs mastered in the form of credits at their own higher educational institution. For the implementation of academic mobility, the coordinated work of universities is carried out not only through the Coordination of curricula, but also with the help of the European Credit Transfer System (ECTS), and mandatory accounting of these programs is carried out.

The importance of developing academic mobility in higher education for Kazakhstan was reflected in the State program for the development of education for 2011-2020 (MES RK, 2010). In particular, the program initiated the creation of the Bologna Process and academic mobility center as a subordinate organization of the Ministry of Education and science in 2012, which has been ensuring the active participation of Kazakhstani universities in international higher education.

The state program for the development of education and Science for 2016-2019 continued the state position on mobility in terms of implementing the Bologna parameters. Based on the experience of foreign countries and taking into account the specifics of Kazakhstan's education, many universities develop international educational programs and projects as the ultimate goal of training highly qualified specialists in demand in the modern labor market. The tool for supporting the international market for training professionals is the development of the academic mobility of students and faculty (BPAMC, 2018). The present day, the importance of internationalization of higher education in Kazakhstan is reflected in the Concepts for the development of higher education and science in the Republic of Kazakhstan for 2023 – 2029 (MHES RK, 2023)

In the address of the head of state Kassym-Jomart Tokayev to the people of Kazakhstan "unity of the people and systemic reforms – a solid foundation for the country's prosperity", the president singled out the development of education, including the creation of the necessary conditions for education. The result of distance learning during the pandemic showed that national telecommunications networks are less efficient. Such a situation led to an increase in the number of students who could not master the basic, elementary knowledge itself. Measures to provide material support should be supplemented with the educational project "Digital teacher". The competent ministry should ensure the improvement of the quality of Higher Education. Higher educational institutions are obliged to respond to high-quality training of specialists. In general, the education and science sector of the country faces an urgent task. This means that in addition to meeting the requirements of the time, you can always go one step ahead and offer new News (Tokayev, 2021).

The main principle in the European education system, which is being implemented today, is the orientation of a specialist in the labor market to achieve personal success in his field, opening opportunities for his career path. To implement all this, it is important that the educational process is flexible for the teacher, not only to form personal and professional competencies, but also to open the way for him to be ready for changes. As one of the factors contributing to this, it is important to develop academic mobility, analyze its implementation, and share experiences. The most important factors in this direction are the maximum development of academic mobility, special monitoring, and special publication of the results.

The rapid development of Information Technologies also has a positive impact on the direction of development of academic mobility.

The emergence and widespread use of Information Technology in all spheres of society has had a positive impact on its character. In the 21st century, the use of technology as a means of learning greatly contributes to the consolidation of students' skills in their field. The possibilities of technologies open the way to education from different countries of the world. This digital revolution facilitated the implementation of many functions through smartphones, as a result of which teachers and students entered a new stage in the assimilation of educational materials in teaching. The introduction of innovations in cloud technologies has opened the way for students to participate in scientific research. Files in various formats, such as PDF and JPEG, have become the basis for modern strategies in education (Kossybayeva et.al, 2022).

Today's analysis shows that the importance of academic mobility is to find a new geographical and social environment among students, to see the methodology of another teacher, and to work with a new library fund. This importance for teachers can be analyzed differently: a new stream of students, a new library fund, and the exchange of experience with teachers from other universities.

The purpose of the study was to consider the regulatory framework of academic mobility among students and teachers of higher educational institutions, analyze the ways of implementation and identify the difficulties that occur.

Organization and methods of research

In modern science, academic mobility is one of the new concepts that requires consideration from several angles.

Since academic mobility is developing within the framework of the above-described importance, it is always necessary to rely on domestic, near and far abroad experience, and scientific research. This, in turn, leads to the use of information technologies in the educational process, technical support, and the widespread introduction of innovative technologies in the educational process. The use of Information Technology in the educational process can be considered in several directions.

Domestic scientists, who considered the use of information technologies in the educational process, are: Kertaeva, K.; Kokanbaev, S.; Menlibekova, S.; Nauryzbai, Zh.; Aganina K.; Serik, M. (n.g.) and others. Among the scientists of the near abroad, there are Khmel, N.; Shevelev, T.; Fazylov, K.; Kuznetsov, A. (n.g.) etc. Other foreign authors incude Cornyu, B., Badarcha, D.; Bacsish, P.; Conole, G.; Sclater, N. (n.g.).

Thus, the analysis of the scientific and methodological literature showed that the modern field of knowledge has the important that requires analysis from several angles, individual discussion of various issues, and constant monitoring of the results of its use.

The results of the study and their analysis

The implementation of academic mobility in higher education institutions is based on the following main documents:

- Order of the minister of Education and science of the Republic of Kazakhstan dated November 19, 2008 No. 613 on approval of the rules for admission to training abroad, including within the framework of academic mobility. Included in the Register of state registration of normative legal acts in the Ministry of Justice of the Republic of Kazakhstan on January 22, 2009 No. 5499;
- Methodological recommendations for the implementation of academic mobility programs (2018).

The analysis of academic mobility among teachers of higher educational institutions was carried out on the basis of Karaganda University named after E. A. Buketov. The University's website reads as follows: The university successfully implements the program of outgoing and incoming academic mobility. It is intended for students and teachers. This program allows our students to study at another university (domestic or foreign) during one academic period. At the same time, all loans mastered and prices received are necessarily recalculated. Foreign citizens can study at our university under the income mobility program.

Teachers can participate in this program as guest lecturers. Every year, Buketov University university is visited by guest lecturers from leading universities in Belarus, Bulgaria, Great Britain, Hungary, Germany, Israel, Spain, Italy, Lithuania, the Netherlands, Poland, Russia, Romania, Slovakia, USA, Uzbekistan, Ukraine and other countries (Academic mobility, 2024).

A university teacher is a person who must have a set of qualities that are inaccessible to many in accordance with the content of professional activity: he must be able to design the educational process, combine various approaches to teaching technology, teach using innovative systems, implement pedagogical reflection, etc. creative, solve problematic tasks of professional pedagogical activity (Guzeyev, 2016).

The analysis on specific teachers was based on the Faculty of mathematics and information technology of the University. The information provided by years of study is as follows (Table 1):

Table 1
Analysis by years of study

№	***Academic year***	***University***	***Format***	***Discipline***
1	2021-2022	West Kazakhstan State University named after M. Utemisov	Online	Fundamentals of Operations Research
2		West Kazakhstan State University named after M. Utemisov	Online	Creating database applications
3		Akhmet Yassawi University	Offline	Modern algebra questions
4		Akhmet Yassawi University	Offline	Mathematical logic
5		Korkyt Ata Kyzylorda University	Online	Computer graphics
6		Korkyt Ata Kyzylorda University	Online	Programming II
7		Korkyt Ata Kyzylorda University	Online	Analytical geometry and linear algebra
8		Zhubanov Aktobe University	Online	Differential geometry and topology
9		Karaganda Technical University named after A. Saginov	Offline	Mathematical logic
10	2022-2023	Karaganda Technical University named after A. Saginov	Offline	Computer networks
11		Karaganda Technical University named after A. Saginov	Offline	Programming in C++
12		East Kazakhstan University named after S. Amanzholov	Online	Computer science teaching methodology
13		Tashkent State Transport University	Online	Multimedia technologies and computer graphics
14		Karaganda Technical University named after A. Saginov	Offline	Programming in C++
15		Karaganda Technical University named after A. Saginov	Offline	High-level programming languages
16		Karaganda Technical University named after A. Saginov	Offline	High-level programming languages
17		Tashkent State Transport University	Offline	Data management (BigData)

According to the Table 1 analysis, in the 2021-2022 and 2022-2023 academic year, the number of teachers at the Faculty of mathematics and Information Technology of Karaganda University named after E. A. Buketov was 17, respectively, the number of teachers included in the faculty was 17. Based on the results of teachers who have passed academic mobility, participation in mobility programs has provided the following promising opportunities and advantages:

- obtaining invaluable international experience in the scientific and educational field;
- expansion of professional knowledge and practical skills;
- have a useful language practice;
- gain experience in teaching and communicating in an international intercultural group;
- compare the quality of education of another educational institution.

If we pay attention to the comments left on the university website in general:

"I would like to express my gratitude to our university for organizing academic mobility with Shenyang Pedagogical University. In a short time, I learned a lot thanks to classes in my native language. Classes are held 2 times a week for 2 academic hours. Thanks to the lessons,

we improved our knowledge of grammar and got access to a lot of interesting information about China. Even though the training takes place in a distance education format and about 30 students take part in the lesson, the steps of teachers built on competent methods allow you to fully assimilate the material and expand your vocabulary. In grammar lessons, we learn grammatical structures and develop pronunciation, and in country studies lessons, we fill our gaps in Chinese history, geography and culture. With each lesson, I realize that my knowledge has become more and more complete".

"A great Chinese language course taught by good teachers. A group of very attentive, competent teachers who can really teach Chinese. During this time, I reached a good level. Thank you. Thank you so much for such an opportunity!"

"For students studying foreign languages, academic mobility opens up new opportunities, the benefits of which are enormous. Karaganda Buketov University supports and develops cooperation with universities in other cities and countries even in the context of a global pandemic. So, in the first semester of the current academic year, ten students of the Faculty of foreign languages, studying in their second and third years, in addition to studying the main subjects of their specialty, study twice a week in an online format with teachers of the Shenyang Pedagogical University of the PRC for several hours. Two subjects are taught: the grammar of the Chinese language and country studies of the PRC. The teachers have a lot of experience, you never get bored in the lessons, and during your studies, you fully immerse yourself in the language environment and culture. In the lessons, various teaching methods and techniques are used, attention is paid to listening, reading and practical conversations. Homework is done both in writing and orally. In addition to online meetings, we are in touch with teachers every day!"

In general, the most comprehensive use of the capabilities of innovative technologies in the educational process, opening the way for the full assimilation of their functions by students are tasks that are covered in all educational programs of a higher educational institution. Many scientific articles can be cited as evidence for this (Kossybayeva et. Al, 2017).

Conclusion

Thus, the direction of academic mobility, which continues to be effective for both teachers and students in the field of Education, has shown several positive effects, as described above. It is an event that receives a positive assessment not only from teachers, but also from students.

As a recommendation, the following can be noted:

- in addition to leaving a review on the University's website, an event is organized that allows students who have passed academic mobility to tell their audience, that is, the student body, all the advantages and disadvantages;

- a round table, a seminar, a training event are organized between the teams of two universities with teachers who have passed academic mobility in order to conduct a complete analysis.

Conflict of Interests Statement

The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

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ORGANIZATION OF INTERNAL QUALITY ASSURANCE SYSTEMS AS A CONSTRUCT OF THE NATIONAL QUALITY ASSURANCE SYSTEM: PRACTICE OF KAZAKHSTANI UNIVERSITIES

Abstract: The restructuring of the quality assurance system of higher education in Kazakhstan is considered a condition for the formation of competitive human potential. The research interest of the authors of this article is aimed at the practice of organizing the internal quality assurance system as the first component of the three-dimensional model of the National Quality Assurance System, which also includes the external quality assurance system and mechanisms of management and regulation of the quality assurance system. The activity of Kazakhstani HEIs with orientation on the European Standards and Guidelines for Quality Assurance in Higher Education in the European Higher Education Area (ESG EHEA) is carried out through the activity of designing a system of measures, including planning, organization and implementation of the actual internal system of quality assurance, adequate to the features of the educational environment of the HEI. As a result of design activity, "author's" normative, organizational, personnel conditions of internal quality assurance systems are created.

The purpose of our research was to analyze the practices of organization of internal quality assurance system by HEIs of Kazakhstan as a construct of the National Quality Assurance System. The study allowed us to identify the common and special in the organization of internal quality assurance systems in the context of the implementation of quality assurance methodology in higher education organizations, in the context of academic freedom.

Key words: quality of education, elements of internal quality assurance system, national quality assurance system, constructs of quality assurance system, reengineering of quality assurance system.

Introduction. The national system of quality assurance of higher education is considered as a system-forming basis for the formation of human resources potential and intellectual capital of the country. This determines the relevance of the study of the processes of organization of internal quality assurance systems (hereinafter – SIQA) by higher education institutions of Kazakhstan as constructs of the national quality assurance system. The study of SIQA organized by HEIs of Kazakhstan will help to identify the most effective methods and tools of quality management, which, in turn, contributes to improving the quality of education, and increasing the level of training of specialists necessary for the development of the economy and society as a whole.

The purpose of our study is to review the current state of quality assurance systems in HEIs in Kazakhstan, to examine HEIs' understanding of the place of SIQA in the system of strategic priorities of organizations, the principles of quality assurance, and the composition of SIQA in higher education organizations.

Within the framework of the study the task of determining the main elements and structure of quality assurance systems in HEIs of Kazakhstan, including standards, processes, procedures, responsible persons and used tools was solved. The vision of the current state of

internal quality assurance systems is able to complement the activities on the development of methodological tools for quality assurance in HEIs.

Methods and organization of the study. In accordance with the purpose and objectives of the study, the method of analysis of secondary data obtained from open sources – documents of HEIs on the organization of the quality of education, which are in the public domain, was used. The main method of the conducted research in the context of the analysis of HEIs' organized SIQA is the review of materials on HEIs' websites. This method allows access to information about strategies, processes and practices of university quality management.

The study of documents on quality policy and standards published on the university's website allows to understand what quality principles and objectives are established by the university, as well as what specific processes and mechanisms are used to achieve them. The materials of the following HEIs' SIQA organization by categories national, international, state are considered:

1. Abai University
2. Astana IT University
3. K. Zhubanov Aktobe Regional University
4. Al-Farabi Kazakh National University
5. Kazakh National Women's Teacher Training University
6. Karaganda University named after academician E.A. Buketov
7. Korkyt Ata Kyzylorda University
8. A. Margulan Pavlodar Pedagogical University
9. M. Kozybaev North Kazakhstan University
10. M. Auezov South Kazakhstan University

The references of the reviewed materials are indicated in the list of literature.

The research attempts to compare the practice of HEIs' organization of internal quality assurance systems and HEI competitiveness in the context of international rating indicators.

The content of HEIs' work is correlated with the general strategy of quality improvement defined in the materials of the National Center for Higher Education Development activities.

The results of the study and their discussion. In the trends of economic and scientific-technical development of Kazakhstan, the role of human capital is increasing. Under these conditions, higher education becomes a driving force for a number of key roles, including, firstly, the organization of professional training of students, providing their career prospects; secondly, the creation of new knowledge and technologies aimed at the progress of society and economy.

The implementation of the principle of autonomy of HEIs, defined by the Charter of European Universities as a systemic provision of competitiveness of the organization, after Kazakhstan's entry into the Bologna Process in 2010, required domestic HEIs to implement academic freedom in the activities of higher and postgraduate education organizations (Suleimenova & Omirbaev, 2023).

The task of creating a competitive model of Kazakhstani higher education actualizes the quality assurance of this level of education, aimed at the processes of socio-economic and scientific-technical development of the country, the development of higher education, is defined as central in the state strategy for the development of this level of education (Resolution 248, 2023). Increased attention to the quality of education is associated with changes in educational needs and conditions of their realization, and reflects the provision of inclusive and equitable quality education and promotion of the possibility of "lifelong learning for all". This international initiative, implemented through innovation and strategic thinking, aims to achieve the Sustainable Development Goals, adopted by the United Nations as "a blueprint for achieving a better and more sustainable future for all" (United Nations, 2015).

The task of improving the quality of education is relevant to the need to build a competitive level of higher education in the context of international indicators. The systematic approach to ensuring the quality of education at the state level is provided by the activities of the Committee for Quality Assurance in the Field of Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan. Since 2015, the National Center for Higher Education Development has been operating in Kazakhstan, the purpose of which is methodological, scientific, methodological and information-analytical support of the implementation of the Bologna Process, including one of the mandatory parameters – "Quality Assurance of Higher Education".

Kazakhstan scientists actively conduct research on the organization of conditions and resources to ensure and further improve the quality of education in the system of higher education in the framework of grant and program-targeted funding of the Ministry of Science and Higher Education of the Republic of Kazakhstan.

Thus, the creation of organizational, information-methodological and other conditions for solving the problem of ensuring the quality of education allowed Kazakhstan to be categorized as a country with a national system of quality assurance (NCHED, n.g.).

At the same time, the task of reconstruction (re-engineering) of the national quality assurance system (hereinafter – NQAS) is currently formulated, which is due to the fact that NQAS should:

- correspond to the changes in educational needs and labor market requirements, take into account the actual skills and knowledge necessary for a successful career;
- comply with international standards of education and requirements for accreditation of higher education institutions;
- be adapted to new technological opportunities and challenges based on the use of information and communication technologies in education.

In general, the re-engineering of NQAS is seen as a strategy to improve the efficiency and attractiveness of education for students and researchers from all over the world, creating a more effective education successfully adapted to modern challenges. Re-engineering of NQAS is supposed to be carried out in the context of developing a model that includes three main sides/components of NQAS: 1) internal quality assurance system; 2) external quality assurance system; 3) mechanisms of management and regulation of the quality assurance system. The researchers see the main goal of this model as the achievement by all three parties/components of "high academic quality, which is called the Q (quality) point" (Omirbaev et al., 2023).

The content of all three components determines the focus of work of organizations of higher and postgraduate education (hereinafter – OHPGE) to ensure compliance with the requirements to the quality of training, the needs of students and employers. That is, "the concept of quality should be considered both from the point of view of the consumer (learner, employer), reflecting compliance with the goal, and from the point of view of compliance with the use or consumption of the educational service (product)" (Omirbaev S.M. & Mukhataev, 2023).

Paying attention to internal quality assurance, we note the continuity and permanence of the process of internal institutional improvement of the quality of education, training and other services in accordance with certain agreed sets of criteria. This process is defined and realized by the HEI itself with the help of appropriate planning methods. Thus, it is about creating a system of internal quality assurance in HEIs through two levels of tasks: firstly, "creating a mechanism that can reform and improve university education in a real, substantial way; secondly, "the ability/responsibility to explain/justify these improvements to stakeholders through a clearly defined set of criteria" (Omirbaev et al., 2023).

The establishment of quality assurance systems within the organization by OHPGE has several significant advantages in the context of NQAS:

1. SIQA allows HEIs to more effectively control and improve learning processes, adapting them to the changing needs of students and labor market requirements. This contributes to improving the level of education, which in turn can improve the country's competitiveness in the global educational space.

2. The creation of the SIQA gives universities greater autonomy in managing their own educational processes. This allows them to respond more flexibly to local needs and peculiarities, which may be more effective than unified approaches adopted at the level of the national education system.

3. An effective SIQA can be a powerful marketing tool for HEIs. High quality ratings and reputation of a reliable educational organization can attract more students, including those from other countries, which helps to strengthen the position of the HEI as a center of educational excellence.

4. The development of SIQA contributes to the transparency and openness of HEIs' activities. It increases the level of trust on the part of students, employers and society as a whole, strengthening the ties between the university and its stakeholders.

Thus, internal quality assurance systems play an important role in improving education at the national level, contributing to its development and competitiveness both in the Kazakh and international markets.

The study of university materials has shown that there is no unambiguously accepted name for the object of study under consideration. Thus, in the materials of universities there is a name in the wording "internal quality assurance system", and in the wording "system of internal quality assurance". In our study, we adopted the position of formulating the object of analysis as "system of internal quality assurance" (SIQA), because in this wording it corresponds to the principles of ESG-analysis, assuming the processes and systems that organizations (in our case – universities) use to control and manage their activities to ensure compliance with quality standards, regulatory requirements and customer expectations. At the same time, we will consider the concept of "internal system of quality assurance" (ISQA), presented in the wording of a number of documents of universities.

Since 2018, taking into account the expansion of autonomy of HEIs, significant changes in the current legislation of the Republic of Kazakhstan on the regulation of OHPGEs' activities in the field of quality assurance of higher education have been introduced. In the materials we reviewed, the time span of development and approval of documents on the organization of SIQA by HEIs is represented by the period from 2019 till present days.

At the same time, it should be noted that the quality management system, developed in accordance with the requirements of international standard ISO 9001, has been implemented and maintained in working condition since 2013 in the universities of Kazakhstan.

As noted, the quality assurance policy aims to "...make a worthy contribution to the formation of human capital for the innovative transformation of the region and the country" (Zhubanov University, 2020).

SIQA is defined as "a set of university organizational structure, internal documentation, indicators, processes and resources necessary for continuous improvement of the quality of education, and the development of a culture of quality" (Astana IT University 2022, 2019).

The place of SIQA in the system of strategic priorities of HEIs is determined by their interrelation and interaction. SIQA is a tool aimed at achieving the strategic goals of HEIs. It can be considered as one of the key elements that ensure the fulfillment of strategic priorities, such as improving the quality of education and research, improving reputation and so on. Thus, the quality system plays a role in the realization of strategic goals and priorities of the HEI (Table 1).

Table 1

The place of SIQA in the system of strategic priorities of HEIs

№	Position	Name of OHPGE
1.	IQAS is a part of strategic management. It is considered together with the mission, Strategic Development Plan, Academic Policy " (Astana IT University 2022, 2019).	Astana IT University
2.	IQAS – the first element of the three-dimensional model of internal quality assurance; the second - external quality assurance system; the third - mechanisms of management and regulation of the quality assurance system (Abai University, 2023).	Abay University
3.	SIQA reflects common approaches, policies, principles, standards and basic mechanisms for improving the quality of education and developing a culture of continuous quality improvement" (Buketov Karaganda University, 2021a, 2021b).	Karaganda Buketov University

In general, it is stated that "the IQA system reflects common approaches, policies, key principles for improving the quality of education ... and developing a culture of continuous quality improvement" (Astana IT University, 2019).

The purpose of the SIQA is key to its effectiveness and success because, firstly, they guide the direction of efforts and resources in achieving educational quality, allowing efforts and resources to be properly channelled and focussed on achieving certain goals; secondly, they serve as a measure of the success of the quality assurance system and provide a basic framework for assessing the effectiveness of current practices and processes, allowing universities to determine how well they are fulfilling their objectives; thirdly, they are an important tool for ensuring transparency and clear communication between the university and its stakeholders.

Thus, the Quality Policy of Karaganda University sees the purpose of SIQA as follows:

- "defines the general structure of the University's internal quality assurance system;
- contributes to ensuring and improving the quality of education;
- supports mutual trust, and promotes the recognition of learning outcomes and learner mobility beyond the national education system;
- provides information on quality assurance to the educational space of Kazakhstan and the European Higher Education Area" (Buketov Karaganda University, 2021a).

The next important element of the methodology of building a SIQA by HEIs are the principles that allow to ensure efficiency, consistency and sustainability of the designed systems.

We see the relevance of formulating principles for the organization of the SIQA for the following reasons: firstly, principles become the main reference points that define the goals and objectives of the SIQA. The principles help HEIs to focus their efforts on achieving key objectives; secondly, the principles help to create a set of rules that promote the consistency of practices of all participants in the processes; thirdly, the principles are the basis for transparency and openness of the SIQA, allowing stakeholders to understand what values and objectives underlie the HEI's activities in the field of education quality assurance.

Thus, HEIs organize and manage SIQA on the basis of the following quality assurance principles (Table 2):

Table 2

Principles of quality assurance

Karaganda BU	Astana IT University	M. Kozybaev North Kazakhstan University
1) the University's activities comply with legislative and regulatory requirements in the field of education, ESG recommendations; 2) ensuring and improving the quality of applied to all educational programmes implemented by the University; 3) the University management ensures unity of strategy, policy and procedures; involvement of all employees and students, external stakeholders in quality assurance activities; 4) SIQA ensures equality of opportunity and fairness to learners; 5) quality assurance promotes academic integrity and academic freedom, the principle of zero tolerance to any form of corruption and discrimination; 6) quality assurance provides for a clear division of authority and responsibility for processes, quality and standards; 7) quality assurance is based on a process approach and compliance and risk orientated thinking; 8) SIQA ensures that important management decisions are made based on comprehensive analysis of data and information; 9) the University management creates conditions for continuous improvement of the quality assurance system and development of quality culture; 10) for continuous improvement of the quality assurance system, external and internal quality assessment and regular review of the quality assurance policy and standards are applied; 11) SIQA is transparent and accessible to stakeholders.	1) quality assurance corresponds to the diversity of higher education systems and learners; 2) compliance of the university's activities with legislative and regulatory requirements, ESG recommendations; 3) quality assurance applies to all educational programmes implemented by the university; 4) the leading role of the university is to ensure the unity of strategy, policy and procedures, involvement of all employees and students in the activities to ensure the quality of education; 5) taking into account the needs and expectations of external and internal stakeholders, their active involvement in activities to ensure the quality of education; 6) ensuring equality of opportunity and fairness to learners; 7) promoting academic honesty and academic freedom, intolerance to any form of corruption and discrimination; 8) Clear division of responsibility and authority for processes, quality and standards; 9) applying a process approach and compliance and risk orientated thinking; 10) making important management decisions based on comprehensive analyses of data and information; 11) creating conditions for continuous improvement of the quality assurance system and development of quality culture; 12) applying external and internal quality assessment; 13) ensuring regular review of quality assurance policies and standards; 14) ensuring transparency and accessibility of information for stakeholders	1) quality assurance corresponds to the diversity of higher education systems, institutions, educational programmes and learners; 2) compliance of activities with regulatory and legislative requirements, ESG recommendations; 3) the leading role of the University management is to ensure the unity of strategy, policies and procedures, involvement of all staff in quality assurance and improvement activities, providing the necessary resources; 4) taking into account the needs and expectations of external and internal stakeholders, their active involvement in the activities to ensure and improve the quality of education; 5) ensuring equality of opportunity and fairness to students; 6) maintaining academic honesty and freedom, intolerance to any forms of corruption and discrimination. 7) clearly defining responsibility for processes, quality and standards; 8) applying the process approach and principles of risk-based thinking; 9) making important management decisions based on comprehensive analyses of data and information; 10) creation of conditions for continuous improvement of the quality assurance system and development of quality culture; 11) applying external and internal independent control; 12) ensuring regular review of quality assurance policies and standards; 13) ensuring transparency and accessibility of information for stakeholders.

The organization of HEIs' SIQA relies on the so-called "elements", which in their totality ensure the quality of educational services provided by the organizations (Table 3).

Table 3
Elements of HEIs' SIQA

№	Elements of HEIs' SIQA are …	Name of OHPGE
1.	… interrelated and interacting quality management policies, standards, tools and methods (Astana IT University, 2019).	Astana IT University
2.	… various elements of educational quality management such as policies, standards, tools and methods, and involves their interaction to ensure quality assurance (Abai University, 2023).	Abay University
3.	… internal quality assurance policies and standards (M. Kozybaev North Kazakhstan University, 2022).	M. Kozybaev North Kazakhstan University
4.	… set of interrelated and interacting Policies, standards, tools and ways of managing the quality of education (Korkyt Ata Kyzylorda University, 2023a, 2023b).	Korkyt Ata Kyzylorda University

Thus, the fundamental elements of the SIQA are the Policy and Standards of internal quality assurance. As noted in the materials of the "Astana IT University" SIQA organization, "the quality assurance policy is aimed at maintaining high quality standards of educational services of the university, as well as to ensure the link between teaching, research and innovation. The tool for realization of the Quality Assurance Policy is the culture of quality.

Internal quality assurance standards establish a set of requirements for the University to ensure high quality of activities based on uniform procedures" (Astana IT University, 2019).

The Quality Assurance Policy and Internal Quality Assurance Standards as the main elements of the methodology of the SIQA organization are based on international standards and guidelines for quality assurance in higher and postgraduate education in the European Higher Education Area (ESG), "taking into account national priorities, specificities and challenges addressed by the higher education system" (Abai University, 2023).

The SIQA is aligned by HEIs to the ten Standards:

S1. Quality Assurance Policy

S2. Programme development and approval

S3. Student-centered learning, teaching and assessment

S4. Learner enrolment, performance, recognition and certification

S5. Teaching staff

S6. Learning resources and learner support systems

S7. Information management

S8. Public information

S9. Ongoing monitoring and periodic programme evaluation

S10. Periodic external quality assurance.

Each of the Standards listed above is described in a number of documents (Table 4):

Table 4

Documents ensuring the implementation of the Standards

The document	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
ESG	+	+	+	+	+	+	+	+	+	+
Model rules for the operation of educational organizations of the relevant types	+		+	+	+	+	+	+	+	+
Internal documents of OHPGE that ensure the implementation of the standard	+	+	+	+	+	+	+	+	+	+
SCES of higher education of the Republic of Kazakhstan		+								
National Qualifications Framework of the Republic of Kazakhstan		+								
Rules for organizing the educational process using credit-based learning technology (CBLT)			+	+		+	+			
Model rules for admission to training in educational organizations implementing educational programmes of higher and postgraduate education				+						
Qualification requirements for educational activities and the list of documents confirming compliance with them					+					

Distinguishing the common and specific in the list of documents defining HEIs' SIQA, we note the possibility of variability in the development of internal documents by organizations to ensure the implementation of each of the 10 standards (Table 5). Internal documents ensure the purposeful solution of management tasks within OHPGE, acting as regulators of HEIs' internal life on a par with legislative and legal acts, at the same time not contradicting them. This activity contributes to the implementation of HEIs' academic freedom policy.

Table 5

Internal documents of HEIs on the implementation of the Standards (HEIs practice)

Standard	List of internal documents of the OHPGE (Omirbaev and Mukhataev, 2023)
S1	Strategy (Plan) of OHPGE development; Documented procedures of OHPGE internal quality assurance system; Academic policy of OHPGE, etc.
S2	Academic policy. Rules for the development of educational programmes of higher and postgraduate education, etc.
S3	Strategy of OHPGE development; Academic Policy; Rules for the organization of the educational process on credit-based learning technology of education; Regulations on Student Self-Governance; Rules of Academic Integrity; Code of Honour of Students; Regulations on Editorship, etc.
S4	Strategy of OHPGE development; Rules for the admission of OHPGE; Rules for the organization of the educational process on credit-based learning technology of OHPGE; Rules for the organization and conduct of interim attestation of students of OHPGE; Rules for the conduct of final attestation of students of OHPGE; Regulations on the system of evaluation of students; Regulations on the verification of written works for plagiarism of OHPGE; Rules for the recognition of learning outcomes of formal and non-formal education, etc.
S5	Strategy of OHPGE development; Academic policy; Personnel policy; Rules of competitive recruitment of teaching staff; Regulations on key performance indicators (KPI) of teaching staff and employees; Regulations on research work; Regulations on granting internal research grants; Regulations on the intra-university stage of the "Best Teacher" competition; Regulations on attracting foreign specialists for teaching, research activities and top management; Regulations on academic mobility; Regulations on the provision of editorship, etc.
S6	Strategy of OHPGE development, Academic policy, Rules for the organization of the educational process on credit-based learning technology of education, Rules for the use of the

	scientific library, Rules for work in the electronic library, Rules for the organization of educational and methodical activities, Regulations for the organization of preparatory educational courses, etc.
S7	Strategy of OHPGE development; Information Policy; Rules for the organization of the educational process using credit-based learning technology; Regulations on Document Management, etc.
S8	Strategy of OHPGE development; Information Policy; Rules for the organization of the educational process on credit-based learning technology of education, Regulations on the document management of OHPGE, etc.
S9	Strategy (Plan) of OHPGE development; Academic policy; Regulations on Academic Committees; Regulations on the Creation and Quality Assessment of Online Courses; Regulations on the Organization of Teaching and Methodological Activities Regulations on the Development of OHPGE Programmes, etc.
S10	Strategy of OHPGE development; Academic policy; International co-operation (documented procedures), etc.

Conclusions

The study has demonstrated that the regulatory and organizational conditions are currently in place at the national level for the implementation of academic freedom policies in OHPGE and the development of strategies and activities to ensure the quality of higher education. One of the resources for solving this problem is the creation of synergetic and harmonious internal quality assurance systems as a component of NQAS.

The research has shown that the design practice of SIQA of domestic HEIs is based on the methodology of organization of complex systems with the definition of their purpose, objectives, principles and structure taking into account international Standards and Recommendations.

The conducted research on the practice of organization of internal quality assurance systems by higher education institutions of Kazakhstan allows us to see the trajectories of filling the content of the management of the processes of improving educational services, identifying the target and substantive bases of changes in higher education institutions. This indicates the prospect of stimulating the development of new aspects and approaches in the methodology of quality assurance in higher education.

It is obvious that within the framework of re-engineering of the national system of quality assurance in higher education, it is relevant to conduct further research into the organization of HEIs' internal quality assurance systems, which will make it possible to achieve comparability and harmonization in their design and, as a consequence, to improve the efficiency of the educational process, research and innovation in OHPGE.

We believe it is important to note that further discussion and research on the organisation of HEIs' SIQA can contribute to the formation of a quality culture in OHPGE and the development of a scientific community in the field of education quality assurance. This may include publications, conferences, seminars and other forms of knowledge and research exchange. Also, it seems promising to conduct research on the selection of training content for specialists responsible for the design and support of SIQA, on the development of tools for building monitoring systems for continuous control and timely adjustments to internal quality assurance systems, if necessary.

These measures will ultimately contribute to increasing the competitiveness of domestic universities in the international arena as well.

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REFLECTION OF THE COMPETENCE MODEL OF A PEDAGOGICAL UNIVERSITY GRADUATE IN REGULATIVE DOCUMENTS

Abstract: This article examines the competency model of a graduate, which is based on the individual`s personal qualities and their readiness to apply the acquired knowledge, skills, and abilities. This article examines the competency model of a graduate, which is based on the subject's personal qualities, his adaptability and willingness to apply acquired knowledge, skills and abilities in changing sociocultural conditions.

The aim of this work is to identify the competencies that a graduate of a pedagogical university should possess, based on a content analysis of the regulatory documents of the Republic of Kazakhstan. These are the "State Compulsory Standard of Higher Education" and the "Teacher" Professional Standard". It has been found that the SCSHE defines a set of general cultural, research, and communicative competencies. Professional competencies are formulated in the most general form without reference to the specific professional activity of a university graduate. The detailed description of graduate`s professional competencies of pedagogical universities should be based on the "Teacher" Professional Standard. Thus, a comprehensive and effective competency model of a teacher can only be developed by taking into account both the SCSHE and the "Teacher" Professional Standard.

Key words: competency model of a pedagogical university graduate, general cultural competencies, professional competencies, research competencies, communicative competencies, "Teacher" Professional Standard, State Compulsory Standard of Higher Education.

Introduction

In modern education, there is a particularly important trend towards transitioning from a qualification-based model of learning in higher education to a competency-based one. The qualification-based model is based on knowledge, skills, and abilities, on the transmission of knowledge from the teacher to the student. The problem of developing a student model in the field of higher education is being researched by many researchers. Opwis (2001) describes Student Modeling in the "International Encyclopedia of the Social & Behavioral Sciences" and indicates what a complete student model of various specialties should contain:

"In its most complete state, the student model also contains domain-independent knowledge. In that case, the system also has to know something about knowledge acquisition based on learning processes, therefore referring to different types of students rather than to different domains. Examples of these kinds of student modeling can be found in the work of Anderson and his group <…>. With such information, the system is then capable of associating specific tutoring strategies to specific learning strategies" (Opwis, 2001).

Kuang and Chang in their study emphasize the dynamism of the student model, which should reflect changing sociocultural conditions, for example, the covid epidemic (Kuang M. & Chang M., 2015). As for the preparation of pedagogical students, scientists insist on the flexibility and adaptability of the teacher model. Mejía-Mercado and Romero-González (2021, p.56) emphasize that it is necessary "to carry out a documentary review of the pedagogical models in order to establish one that adapts to the needs of current education, specifically the citizenship training of individuals". Another priority in the development of the teacher model

Ylonen, Norwich (2012, p.2-3) consider its focus on inclusive education, on mastery of teaching methods for schoolchildren with special educational needs.

As we see, scientists characterizing the modern model of a university graduate mostly adhere to a competency-based approach.

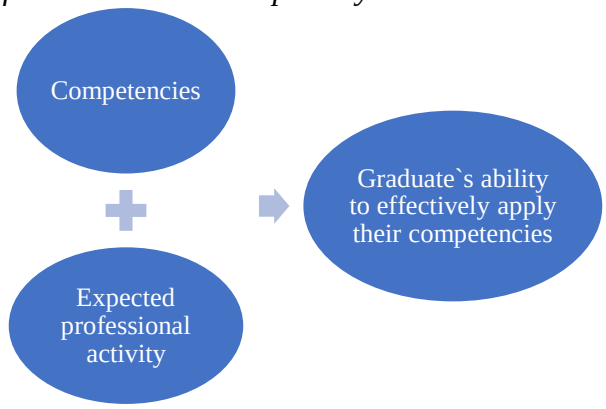
The competency-based model, however, is based on the readiness of the learner to apply knowledge, skills, and abilities, as well as on their personal qualities. The teacher serves as a consultant, while the student is an active participant. Zeer (2008, p.25) believe that the competency-based approach is a priority orientation towards the goals of education: teachability, self-determination, self-actualization, socialization, and the development of individuality. According to their opinion, as instrumental means to achieve these goals, fundamentally new educational constructs are competencies and meta-professional qualities. Andrienko (2018, p.16) rightfully points out that the competency-based model, unlike the knowledge-based one, involves not only acquiring a certain volume of academic knowledge but also the practical application of the acquired knowledge in professionally oriented activities.

According to him, the main goal of competency-oriented education is to bridge the gap between education and real-life requirements: from the necessity for students to achieve a certain level of competency in professional activities to the readiness of future specialists to implement the acquired set of competencies in real-life situations, the ability to interact in group activities, cooperate within a team, and compete in the job market (Andrienko, 2018).

The viewpoints of Radevskaya and Imanov (2017, p.15), which describe the competency model in terms of the competencies that a university graduate should possess, the functions they are prepared to perform, and the qualities they possess, are closely aligned with the interpretations listed above. The competence model is built on the correspondence of university graduate`s competencies to the expected professional activity and the ability to effectively perform their functions, as shown in Figure 1.

Figure 1

Interaction of elements in the competency model



Competence is closely related to knowledge, skills, and abilities, but at the same time, it is a broader concept than competency. Unlike knowledge, competency implies not just possessing information but also the ability to apply it in activities (Omarova, 2022). Researchers define that “competence is a dynamic combination of attributes, attitudes and abilities. Formation and development of competencies is the goal of the implemented educational programs. Competencies are formed in all courses of study and assessed at different stages of learning” (Kazinec, 2020, p.162). Thus, researchers distinguish between the concepts of competency and competence: competencies refer to the entirety of what an

individual possesses, while competence refers to the set of competencies that they use in professional activities (Kazinec, 2020, p.162).

Thus, the model of a graduate`s personality is a construct or a form of systemic design in the categories of "competency" and "competence", which characterize the qualities of an individual`s personality, reflecting their motivational, informational, operational, and reflexive readiness for a specific type of professional activity. It also describes the types of professional training (Solodova, 2008, p.34).

The purpose of our article is to conduct a content analysis of the State Compulsory Standard of Higher Education of the Republic of Kazakhstan (hereafter referred to as SCSHE) (MSHE RK, 2022), adopted in 2022, and the "Teacher" Professional Standard of 2022 (hereafter referred to as TPS) (MERK, 2022), in terms of reflecting competencies within them and constructing a model of a university graduate in accordance with them.

Research methodology and methods

As mentioned above, we have chosen a competency-based approach for constructing the model of a university graduate.

The regulatory documents of the Republic of Kazakhstan served as the material for developing the competency model of a pedagogical university graduate: the State Compulsory Standard of Higher Education of the Republic of Kazakhstan from 2022, with additions made in 2023, (MSHE RK, 2022) and the "Teacher" Professional Standard from 2022, which was approved by the order of the Acting Minister of Education of the Republic of Kazakhstan from December 15, 2022 №500 (MERK, 2022).

Content analysis of regulatory documents was consistently used as the main method. Qualitative content analysis helps to reveal how the above-mentioned regulatory documents reflect the competencies necessary for effective implementation of professional activity by the Republic of Kazakhstan pedagogical universities graduates.

Results and discussion

In the competency model of a graduate teacher, the following types of competencies are traditionally distinguished:

General cultural competencies;

Professional competencies;

Research competencies;

Communicative competencies (Nurzhanova, 2023, p. 68–69).

General cultural competencies encompass the abilities of a university graduate to, firstly, share the values prevailing in society – Kazakhstani patriotism, citizenship, tolerance, moral and ethical norms; secondly, possess linguistic and legal culture; thirdly, have humanistic ideals and notions of world culture, science, and religion; fourthly, possess an ecologically developed consciousness. In other words, the general cultural competencies of graduates from higher educational institutions are not dependent on their professional activities; they are universal for specialists in various fields. This also includes competencies in the household and cultural-leisure sphere, for example, proficiency in effective ways of organizing free time; experience in mastering the student`s scientific worldview, expanding to a cultural and universal understanding of the world (Nigmatzyanova, 2014), (Semashchenko, 2022).

Having considered some definitions of general cultural competencies, we have come to the conclusion that they are a fundamental competency that helps individuals to self-identify in the global cultural space, apply theoretical knowledge in practical activities, and navigate in any society. They are necessary for everyone, regardless of their specialty or profession.

Professional competence is the ability to act successfully on the basis of practical experience, skill and knowledge in solving professional tasks. Professional competence can be

considered an integrative quality of a specialist`s personality, including a system of knowledge and skills, generalized ways of solving typical problems (Zeer, 2008 p. 24–26).

Regarding the professional competencies of a teacher, V. Adolf states that they are "a complex of knowledge, skills, properties, and personal qualities that ensure the variability, optimality, and effectiveness of the educational process" (Adolf, 1998, p. 118). Another definition is given in the "Pedagogical Dictionary": "Professional competence of a teacher is the teacher`s possession of the necessary sum of knowledge, skills and abilities that determine the formation of his/her pedagogical activity, pedagogical communication and teacher`s personality as a carrier of certain values, ideals and pedagogical consciousness" (Kodzhaspirova, 2005).

It can be concluded that professional pedagogical competence is:

- Knowledge, skills, and abilities necessary for a teacher`s professional activity;
- The ability to effectively solve pedagogical, didactic, and methodological problems using high professionalism.

Research competence is ambiguously interpreted in pedagogical science. Thus, Zeer and Symanyuk (20011, p.4) believe that research competence from the perspective of the knowledge approach is a set of knowledge and skills necessary for the implementation of research activities. In the functional-activity approach, research competence is seen as a set of personal qualities necessary for effective research activity (Ananyev, 2008, p.6). This is one of the most important competences of a teacher, especially demanded today in Kazakhstani school, where innovative development is actualized, the readiness of teachers to work in experimental conditions, conduct scientific research, plan and organize students` research activities.

One of the key competencies of a teacher is communicative competence, which is defined as fundamental. Formation and development of communicative, in particular speech competence of students, is not only the task of special disciplines teachers. It is necessary to pay attention to the development of teachers` speech competence along with the development of their professional knowledge and skills. A teacher should possess a sufficient level of communicative competence, be able to flexibly manage the process of interaction during education and upbringing, apply communicative technologies, strategies, and tactics that contribute to mutual understanding with students, their parents, colleagues, and leadership.

In the proposed a model of graduate teacher (see Tables 1, 2 below), a complex of competencies is presented, consisting of four groups: general cultural competencies, professional competencies, research competencies, and communicative competencies. The competencies were identified through the content analysis of Kazakhstani regulatory documents: the State Compulsory Standard of Higher Education of the Republic of Kazakhstan from 2022 and the "Teacher" Professional Standard from 2022.

During the content analysis of the SCSHE concerning competencies, difficulties arise primarily due to contradictions between the competencies of a university graduate, as defined by the Dublin Descriptors for bachelor`s degrees in sections 34–35 of the SCSHE, and the skills and abilities that students should acquire after studying compulsory disciplines. Indeed, the competencies based on the Dublin Descriptors have a professional character, from the first result to the fifth, as well as the seventh and eighth results. See the SCSHE paragraph 34:

"34. The requirements for the level of students' training are determined on the basis of Dublin descriptors of the first level of higher education (bachelor`s degree) and reflect the mastered competences expressed in the achieved learning outcomes.

The learning outcomes are formulated both at the level of the entire higher education program and at the level of individual modules or academic disciplines.

35. The descriptors reflect learning outcomes that characterize students` abilities:

1) demonstrate knowledge and understanding in the studied field, based on advanced knowledge in the field;

2) apply knowledge and understanding at a professional level, formulate arguments, and solve problems in the studied field;

3) collect and interpret information to form judgments considering social, ethical, and scientific considerations;

4) apply theoretical and practical knowledge to solve educational, practical, and professional tasks in the studied field;

5) learning skills necessary for independent continuation of further education in the studied field;

6) know the methods of scientific research and academic writing and apply them in the studied field;

7) apply knowledge and understanding of facts, phenomena, theories, and complex relationships between them in the studied field;

8) understand the importance of principles and culture of academic integrity" (MERK, 2022).

Indeed, only the 6th learning outcome can be attributed to the group of research competencies. In other words, out of the 8 learning outcomes formulated based on the Dublin Descriptors, 87,5% constitute professional competencies, while 12,5% constitute research competencies.

General cultural, communicative, and research knowledge, skills, and abilities constituting the respective types of competencies are outlined in the learning outcomes of general education disciplines (hereinafter GED) in paragraph 7 of the SCSHE. See our grouping of competencies in Table 1.

Table 1

Types of Competencies in the SCSHE of the Republic of Kazakhstan

I	**General Cultural Competencies**
1	2) interprets the content and specific features of mythological, religious, and scientific worldviews;
2	3) argues their own assessment of everything happening in social and production spheres;
3	9) develops their own moral and civic position;
4	10) operates with the social, business, cultural, legal, and ethical norms of Kazakhstani society;
5	11) demonstrates personal and professional competitiveness;
6	12) applies knowledge in the field of social and humanitarian sciences, recognized globally, in practice;
7	22) applies acquired knowledge for effective socialization and adaptation in changing sociocultural conditions;
8	20) develops a personal educational trajectory throughout life for self-development and career growth, focusing on a healthy lifestyle to ensure full social and professional activities through methods and means of physical culture.
II	**Research Competencies**
1	1) evaluates the surrounding reality based on worldview positions formed by knowledge of the fundamentals of philosophy, which provide scientific understanding and study of the natural and social world through methods of scientific and philosophical cognition;
2	4) demonstrates a civic position based on a deep understanding and scientific analysis of the main stages, regularities, and peculiarities of the historical development of Kazakhstan;
3	5) uses methods and techniques of historical description to analyze the causes and consequences of events in the history of Kazakhstan;
4	7) synthesizes knowledge from these sciences as a modern product of integrative processes;

5	8) uses scientific methods and techniques of research in a specific science, as well as in the entire socio-political cluster;
6	13) makes choices of methodology and analysis;
7	14) generalizes research findings;
8	15) synthesizes new knowledge and presents it in the form of socially significant humanitarian output;
9	23) possesses skills in quantitative and qualitative analysis of social phenomena, processes, and issues.
III	**Communicative Competencies**
1	6) assesses situations in various spheres of interpersonal, social, and professional communication, taking into account basic knowledge of sociology, political science, cultural studies, and psychology;
2	16) engages in communication in oral and written forms in Kazakh, Russian, and foreign languages to address tasks of interpersonal, intercultural, and professional communication;
3	17) utilizes language and speech tools based on a system of grammatical knowledge; analyzes information in accordance with the communication situation;
4	18) evaluates the actions and behavior of communication participants;
5	19) utilizes various types of information and communication technologies in personal activities: internet resources, cloud and mobile services for searching, storing, processing, protecting, and disseminating information;
6	21) knows and understands the basic patterns of Kazakhstan's history, fundamentals of philosophical, socio-political, economic, and legal knowledge, communication in oral and written forms in Kazakh, Russian, and foreign languages.

Therefore, mastering the GED (64 credits) primarily develops in students general cultural (8), research (9), and communicative (6) competencies. The professional competencies outlined in the Dublin Descriptors, most important in terms of professional competence, are developed through the study of basic and specialized disciplines (BD and SD). They are allocated 176 credits within the structure of the higher education curriculum (HEC), which is 73,3% of the total number of credits for education (240 credits).

The professional competencies are formulated in the SCSHE in a very general manner, as they define the preparation of graduates for various specialties and professions. Therefore, the SCSHE in paragraph 20 directs educational program developers to professional standards: “20. OHPE independently develop higher education programs in accordance with the requirements of the SCSHE and Professional Standards (where available)” (MSHE RK, 2022).

Therefore, the specification of professional competencies for pedagogical universities graduates is necessary and possible based on such a regulatory document as the “Teacher” Professional Standard, approved by the Ministry of Education of the Republic of Kazakhstan in 2022. In the TPS, it is stated: “The general characteristics of the professional activity of educators contain the framework of professional competencies of the teacher...” (MERK, 2022).. This means that the Standard implements a competency-based approach to the preparation of pedagogical universities graduates, as we discussed earlier.

The objectives proposed in the Standard are also focused on the professional competencies of the teacher:

“1) describes the content of pedagogical activities and the level of preparation required;

2) serves as a basis for the development of educational programs for the training and professional development of teachers, as well as for retraining professionals from other fields;

3) describes the competencies needed for professional growth, from initial training and entry into the profession to pedagogical mastery;

4) development of the system for professional retraining and further education of teachers;

5) establishment and assessment of qualification requirements and job functions of teachers;

6) management of changes and adaptation of the content of one's own pedagogical activities" (MERK, 2022).

As we can see, all 6 objectives are directly related to the professional competencies of a teacher. In Appendix 1 to the TPS, a "Framework of Professional Competencies of a Teacher" is provided, which is differentiated into 4 blocks: professional values, professional knowledge, teaching/learning practice, and professional development (MERK, 2022). For these listed teacher competencies in the "Framework…", criteria and indicators are provided. For example, for professional values, criteria such as commitment to the teaching profession, citizenship, adherence to professional ethics, responsibility, and proactivity are indicated. See Table 2.

Table 2

Competencies in the "Teacher" Professional Standard

	Competencies	Criteria
1	**Professional values** Performs professional activities based on respect and responsibility, honesty, and fairness	1.1 Commitment to the Teaching Profession
		1.2 Citizenship
		1.3 Adherence to Professional Ethics
		1.4 Responsibility
		1.5 Proactivity
2	**Professional knowledge** Understands pedagogical approaches to quality education based on knowledge of strategic documents in the field of education, cultural values, and learning theory	2.1 Knowledge and utilization of the individual characteristics of students in teaching, learning, and upbringing
		2.2 Knowledge of the subject matter, teaching methodology, and student assessment tools
3	**Teaching/ Training and Education Practice** Plans the educational process, organizes a safe, favorable environment for all students, and ensures the achievement of educational and upbringing goals	3.1 Planning the teaching/ learning and upbringing process
		3.2 Creating a safe, supportive learning and developing environment
		3.3 Implementation of the teaching and upbringing process
		3.4 Assessing the educational achievements of students
		3.5 Collaboration in the teaching and upbringing process
4	**Professional Development** Manages own professional growth and develops competencies for effective pedagogical activities	4.1 Reflecting on own practice and colleagues` practice
		4.2 Managing the quality of self-development and aspiring to leadership

Note in the "Teacher" Standard the inconsistent distinction of four main types of competence: for example, in professional values, besides professional competencies, general cultural competencies are included. Value 1.2 "Citizenship" contains the following indicators of general cultural competencies:

1.2.1 Expresses commitment to the national and cultural values of Kazakhstan.

1.2.2 Demonstrates respect for global cultural and linguistic diversity.

1.2.3 Integrates the richness of Kazakh culture and language, as well as other cultures and languages of the people of Kazakhstan, into the process of teaching and upbringing.

1.2.4 Adheres to the principles of academic integrity and zero tolerance for corruption (MERK, 2022)..

However, it is the TPS that allows for the completion of the model of pedagogical universities graduate development in Kazakhstan, supplementing and specifying the professional competencies of a teacher – the most important part of their training. A comprehensive competency of a model of pedagogical universities graduate, and accordingly, the development of educational programs for teacher training, should be built taking into account not only the SCSHE, but also the "Teacher" Professional Standard. This norm is embedded in the SCSHE, which recommends developing educational programs based on the TPS. In the SCSHE, only general cultural, research, and communicative competencies are clearly defined, while professional competencies based on the Dublin Descriptors are outlined in a very general manner. The TPS details the professional competencies of teachers at different levels and educational organizations: from a trainee teacher to a master teacher, from a teacher of a pre-school education and training organization, a secondary school teacher to a master trainer.

The study of the content of regulatory legal acts and their analysis is an important component in the development of educational strategies in the field of higher education. Researchers rightly emphasize the strategic importance of high-quality regulatory documents for improving the quality of higher education in Kazakhstan (Omirbayev et. al, 2023).

Conclusion

Thus, an effective model of a pedagogical universities graduate of RK should take into account the norms and requirements laid down not only in the SCSHE, but also in the "Teacher" Professional Standard. It is important to note that both the SCSHE of RK and the Professional Standard are oriented towards a competency-based model of the teacher. The application of a competency-based model in pedagogical universities serves as the foundation for preparing highly qualified teachers to work in educational institutions of various types. The SCSHE and the "Teacher" Professional Standard are oriented not towards the qualification requirements of employers, but towards competency, which combines qualification with social orientation, practical application of acquired knowledge, ability to work in teams, responsibility, and initiative.

Conflict of Interest Statement

The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

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